CaFFee (CCTaaS)®

Carbon Credit Tokenization as a Service

A Web3 and ReFi solution for the B2B and B2C markets

FCE Group's ReFi solution to facilitate mass adoption of carbon offsets
Basics and Principles

Overview

Document information

Title

CaFFee - Tokenization of Carbon Credits. Basics and Principles

FCE Group's ReFi solution to facilitate mass adoption of carbon offsets.

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The FCE Group AG team

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Disclaimer

This document describes FCE GROUP AG's team's vision of how blockchain technology and Web3 can help foster the mass adoption of carbon offset technologies.

It cannot be considered a guide for direct implementation.

The tokenization of carbon credits is still a relatively new concept. Some regulatory and technical challenges remain to be addressed.

While FCE's team and all other parties working on this White Paper have made every effort to ensure the accuracy of the standards and frameworks it refers to, the document outlines a broad vision. It is being made available with no express or implied warranty for any damages or losses resulting from its use.

The document reflects the state of the art at the time of writing and may be periodically revised due to technological developments, changes to standards, and new regulations.

Some products and company names mentioned in this document may be trademarked.

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01

Introduction

1.1. Abstract

The rapid development of the sustainability agenda has had a substantial impact on the carbon credit market. Since this market is currently unregulated, it presents several opportunities and challenges simultaneously. The Voluntary Carbon Market (VCM) aims to bridge the gaps in this quickly growing market.

Although carbon credits are a much-discussed topic in today's current business environment, there is generally a poor understanding of the role of carbon credits role and their potential to balance the global economy and steer it toward sustainability.

On one hand, the hype and rumors around sustainability and carbon credits encourage many technology providers to build tools that facilitate the integration of carbon credits into business processes. On the other hand, there's a great temptation to offer tools for a fresh wave of financial speculation or even "greenwashing." Unfortunately, there are many examples of companies leveraging such a pressing problem for their own benefit.

This document aims to describe and explain FCE's vision and approach to how Web3 and DLT can help build reliable and trustworthy solutions for the voluntary carbon market. While developing this white paper, FCE explored some of the market's opportunities, gaps, and challenges.

1.2. Web3 and Carbon Credits

In 2021, the VCM reached almost $2 billion due to global shifts in consumer behavior, market sentiments, and regulatory tightening. McKinsey predicts that the carbon credit market could reach $50 billion by 2030.

Web3 technology has had to keep pace with the fast-growing market. But what value can Web3 bring to it?

As a technology, Web3 can bring full transparency and greater integrity to the VCM.

> **It will help authenticate, verify, and validate the products and services tagged as "sustainable."**

The effectiveness of carbon offsets has been significantly limited by a lack of data access and transparent verifiability because the data underlying the offsets is a key factor in decision-making. These limitations are weakening the mass adoption of carbon offsets and undermining the goal of making a positive environmental impact.

To assess the merit of Web3 carbon solutions, the FCE team considers their value and attractiveness for market-driven climate actions. The main criteria for such an assessment are the differences and improvements that Web3 makes in the carbon market.

In this case, the FCE team is in full solidarity with the South Pole approach*, which establishes the following criteria for new climate-focused Web3 solutions. These solutions must:

- Improve market access for buyers by expanding the market through greater price transparency and market participation.
- Improve market access for project developers by reducing the cost of carbon credit origination.
- Improve market access for intermediaries by reducing transaction costs and providing additional liquidity.
- Strengthen the case for investments in climate action by making the prices in the spot and futures market higher and more reliable for project developers and investors.
- Create new and viable asset classes for a broader audience by providing predictable returns on investment and including value protection for buyers and sellers, as compared to existing solutions offered in the VCM.
- Have clear safeguards to protect the companies' reputation and legal processes for settling disputes.

Considering the essential criteria above, the following targets for Web3 developers emerge organically:

- 1. The design of the Web3 application should support and protect the VCM to preclude the possibility of fraud. DLT (Distributed Ledger Technology) matches this target perfectly.
- 2. Leverage a net-zero distributed registry to build apps for the VCM. This is the main reason why, in December 2022, FCE GROUP launched the revamped FCE blockchain with a PoA consensus that offsets every transaction created by users and smart contracts on the FCE blockchain. We'll elaborate on these points in the following chapters of this document.
- 3. To build solutions that create long-lasting value. In other words, the solutions should improve on the conventional profits-only investment approach and foster new long-term investment approaches that consider the planet as a significant stakeholder.
- 4. Such applications should be developed in concert with reliable organizations that are focused on mitigating climate impacts and have a strong history of protecting the integrity of the carbon market.

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* Ingo Puhl - Co-founder and Managing Director. South East Asia. South Pole. https://www.southpole.com/fr/blog/blockchain-and-carbon

1.3. Carbon credits as a distinctive financial market niche

Carbon credits have gradually carved a distinctive niche in financial markets through new taxes, payments, and mandatory reporting features for companies. Looking ahead, FCE's team expects a fundamental, comprehensive, and rapid shift in the market, one which is already demanding an urgent technological response to address certain shortcomings. If this shift fails to occur, the gaps between regulation, climate change effects, and the business environment will barely be bridged by current technological and financial solutions.

There is a significant chance that carbon credits could soon become a widely-used variety of currency as the global community prioritizes reducing greenhouse gas emissions to combat climate change. Carbon credits are already used as a currency in various carbon markets and can be traded like other financial assets.

However, it would likely require significant changes in government policy and international agreements for carbon credits to become a widely accepted form of currency. Also, the value of carbon credits can be highly dependent on factors such as government regulations and the availability of carbon offset projects, which could make it difficult for them to function as a stable currency.

From a technological standpoint, carbon credit tokenization is the way to bring this new financial tool to the ground level. The FCE team considers tokenization as a process, one which is well explained in many other documents. Therefore, in this document, we won't focus on tokenization but instead elaborate on carbon credit tokenization within the FCE blockchain.

The Carbon Credits Tokenization as a Service (CCTaaS) will make VCM more accessible and carbon offsetting massive. It will engage mini- and micro-businesses to create a market in which end consumers and clients can offset individual transactions instantly by purchasing goods or services.

Overall, carbon credits have the potential to become a currency, but this outcome will depend on several factors, including government policies, international agreements, and the stability of the carbon credit market.

1.4. How can Web3 address VCM challenges?

The **VCM** faces several challenges that limit its effectiveness in reducing emissions and achieving net-zero goals.

This is how FCE's team sees VCM challenges and the contribution of Web3 technology in addressing them:

VCM challenge	Web3 response
Lack of transparency and standardization: There is currently a lack of standardization in the voluntary carbon market, making it difficult for buyers to compare and verify the quality of different carbon credits.	**Blockchain-based VCM** can provide a transparent and tamper-proof record of carbon credit transactions, and increase the visibility and accountability of the market and every actor in it.
Limited availability of high-quality offset projects: Many offset projects in today's voluntary carbon market may not represent genuine emissions reductions, making it difficult for buyers to offset their emissions meaningfully.	**A fully transparent** system based on traceability and verification will separate offset projects into high and low-quality projects. Through smart contracts and digital tokens, carbon credits can be tracked and verified throughout a product's lifecycle, from creation to retirement.
Double counting: Carbon credits in the voluntary carbon market can be used multiple times, leading to potential "double counting" of emissions reductions.	**DLT systems** can prevent double counting by creating a tamper-proof record of carbon credit transactions that can be easily audited.
Additionality: The voluntary carbon market is often criticized for the lack of "additionality" in the credits. This means the offset projects are only implemented to generate credits, and not for other reasons such as regulation or policy.	**Completely transparent data** access can help ensure a credit is additional by showing that the emissions reduction underpinning the credit would not have occurred without the activity that generates the credit (the BAU scenario).
Voluntary nature of the market: Because the voluntary carbon market is optional, the demand for and price of carbon credits may be low, which makes it difficult for offset projects to secure funding.	**Increasing demand:** Web3 technology can increase the demand and liquidity of carbon credits by making it easier for buyers to purchase and trade tokenized carbon credits.

Another significant bottleneck in the seamless development of the carbon market and its extension to local and global economies is that the current carbon market more or less matches B2B business models and dissonances with multi-trillion B2C markets, which engage end consumers and customers. The minimum purchase amount of 1 metric tonne of carbon credits imposes strict operational and administrative limitations on businesses that aspire to offset every transaction of end customers with tiny carbon footprints.

Tokenizing intangible assets like carbon credits appears to be the best solution to tackle this obstacle. **CaFFee aims to provide carbon credit tokenization as a service (CCTaaS) to bridge the gap between project developers, traders, and multi-billion B2C markets.**

Despite these challenges, the VCM is considered a valuable tool for reducing emissions and raising awareness about the importance of climate action. However, it's essential to have a rigorous verification process and to ensure that the offset projects are truly additional and have a real impact on reducing emissions.

Web3 technology, specifically blockchain, can help address some of the voluntary carbon market's challenges by providing greater transparency and traceability in the carbon credit market.

It's important to note that while Web3 technology can help address some of the challenges facing the voluntary carbon market, it alone is not a silver bullet solution. Implementing rigorous and transparent standards and verification processes is still necessary to ensure the effectiveness of carbon credit systems.

02

What is CaFFee?

2.1. Description

CaFFee is a one-stop-shop digital solution for quality carbon credits:

- Tokenization
- Trade
- Offsetting
- Verification

Tokenization of carbon credits refers to the process of creating digital tokens (digital twins) on the FCE blockchain that represent a certain number of carbon credits. These tokens can be tradeable on the TransparenTerra blockchain-based carbon marketplace.

By tokenizing carbon credits, CaFFee makes them **tradeable**, increasing their liquidity and providing an easy way for companies and individuals to offset their emissions by purchasing carbon credits from offset projects.

Once the carbon credit has been tokenized, it is available for full or partial distribution. The seamless **distribution** of tokenized carbon credits takes place on the **TransparenTerra platform** as outbound/inbound transmissions between independent brokers or internal transmissions between the different units or departments of the parent company or the same group's companies. Additionally, carbon credits tokenized by CaFFee can be distributed through carbon funds, which are financial vehicles that allow investors to invest in carbon offset projects.

CaFFee leverages the FCE blockchain as a digital notary to validate each transaction and avoid double-counting of carbon credits. The FCE blockchain's tamper-proof and decentralized nature provides a transparent and secure digital ledger of all carbon credit transactions, which can prevent the same carbon credit from being sold multiple times.

03

CaFFee's Unique Value Proposition

3.1. Fraud prevention

CaFFee prevents carbon credit fraud by providing a secure, decentralized, and tamper-proof ledger of transactions. This makes it impossible for fraudsters to alter, manipulate, or double-count carbon credits, as all changes are traceable to all participants in the FCE blockchain network.

In a carbon credit protection scenario, a hash of the carbon credit will be deployed on the FCE blockchain, which acts as a digital registry and notary. If any changes related to the carbon credit are made, it will result in a different hash being generated, making it easy to detect and prevent fraudulent activity.

Once the carbon credit has been retired, the customer receives an SBT token (Soulbond) as an unmovable certificate initially designed to be permanently bound to a specific user or entity. This means that the token cannot be transferred, traded, or sold and is intended to provide a secure and permanent form of value storage for the owner and beneficiary.

> **Since SBT tokens are built on top of blockchain technology, they also provide increased transparency and immutability, making tracking and verifying ownership easy.**

CaFFee provides transparency and accountability, as all transactions and carbon credit accesses are recorded and stored immutably in the FCE blockchain. This increases trust and reduces the risk of fraudulent activities.

Overall, using the FCE blockchain for carbon credit fraud protection provides a secure and reliable way to track and verify the authenticity of carbon credits, eliminating the risk of fraud.

3.2. Net-zero and sustainable FCE blockchain

> **CaFFee provides a comprehensive approach to carbon footprint offsetting.**

The FCE net-zero blockchain aims to reduce the technology's environmental impact and create sustainable enterprise and industrial standards. The FCE blockchain achieves that through PoT consensus, energy-efficient hardware, renewable energy sources, and by offsetting every transaction within the FCE network.

There are three general ways FCE achieves this status.

- Unlike leading blockchain networks based on a zero-trust concept, the FCE network is a permissioned blockchain that leverages trust as a fundamental element in the network.

  The FCE blockchain consensus is Proof-of-Trust (PoT). Trustees play the role of validators within the FCE blockchain.

  The system rewards validators one at a time and sequentially, regardless of who created the block. Since all network members trust each other, the FCE blockchain doesn't need massive validators that compete with each other and consume a huge amount of energy.

  In the beginning, FCE will harness 13 nodes to support PoT consensus.

Due to the PoT consensus and lack of competition, the FCE blockchain does not make complex math calculations requiring much energy.

> **So, the first reason that makes FCE blockchain sustainable is the primary network concept of trust, which is fundamentally much more energy efficient than the mistrust concept.**

- FCE is scrupulous about the hardware requirements and cloud service providers that the validators use. A validator can only use the server capacity and infrastructure of companies that use renewable energy and offset the carbon footprints of their activities.

The second reason for FCE blockchain sustainability is meager energy consumption.

- Every user of the FCE blockchain pays an FCE network Carbon Footprint Fee (CaFFee) to offset their transactions. This fee is paid in FCEM (the internal FCE blockchain currency) against the tokenized carbon credits provided by FCE Group partners that are eligible to trade carbon credits. Thus, the carbon footprint of the entire network is fully offset by the users themselves. This mechanism is mandatory and built directly into the FCE blockchain structure. It works by harnessing tokenized carbon credits.

That is, when the user initiates any transaction within the network, the FCE network automatically assesses the future carbon footprint of this transaction and charges the user an additional fee (CaFFee). This fee goes to the smart contract to fund future carbon footprint certificates.

The third reason for the FCE blockchain's sustainable nature is a total offsetting of its carbon footprint.

Transaction offset certificate

Hash: 0xb...b8cd

Date/Time: 2022-11-12 12:23:34

FCEM: 123

Offsetted: 36 000 CO2e/kg

Related to

Number: #234543234

From: South Pole

To: TransparenTerra

Date: 12.12.2020

Offsetted: 36 000 CO2e/kg

3.3 Long-lasting value creation

The CaFFee's primary goal is to create a system that engages individuals in the sustainability movement on a massive scale. When the end consumer receives a personal certificate for offsetting even a micro-transaction that generates a micro carbon footprint, the rewarding model works as a permanent reminder of our responsibility to mitigate the transaction's climate impact. When the market accepts this model, getting a carbon offset certificate for any tiny action will become routine and change consumer behavior. The sustainability shift will change communities and, eventually, the social mindset.

Consumer expectations will lead companies to meet these expectations through various means, such as:

- Focusing on sustainability: Implementing sustainable business practices such as reducing waste and emissions, conserving resources, and promoting social responsibility can help companies create value in the long term.
- Investing in research and development: Companies that invest in research and development to create new products, processes, and technologies are better positioned to stay ahead of the competition and satisfy changing customer needs.

- Building strong relationships: Establishing strong relationships with customers, suppliers, and other stakeholders can help companies create value by fostering trust and loyalty, improving communication, and increasing efficiency.
- Emphasizing corporate culture: Companies that cultivate a positive corporate culture and values can attract and retain talented employees, improve collaboration and teamwork, and promote ethical business practices.
- Pursuing strategic partnerships: Strategic partnerships can help companies leverage each other's strengths and resources to create new opportunities and expand into new markets.
- Fostering innovation: Encouraging innovation and experimentation can help companies stay ahead of the curve and adapt to changing market conditions.
- Maintaining financial discipline: Sound financial management practices, such as maintaining a strong balance sheet, managing risk effectively, and allocating capital wisely, can help companies create value over the long term.

CaFFee aims to accumulate consumer expectations and business intentions to build synergy for a global sustainability shift. The CaFFee seeks to create a business environment that generates short-term profits and contributes to the well-being of society and the planet in the long term.

3.4. Responsible partnerships

Responsible partnerships are the cornerstone of any sustainable project and are based on mutual respect, trust, and transparency. Responsible partnerships aim to create value for all parties involved, sustainably and ethically. Such partnerships prioritize the well-being of people, communities, and the environment and seek to achieve mutually beneficial outcomes through collaboration and shared decision-making.

To create the CaFFee, FCE built responsible partnerships that take many forms.Currently, FCE partners with.

- South Pole (Switzerland)
- NGO Synergos (Nigeria)

FCE and all parties leverage these partnerships to address complex social and environmental challenges and promote sustainable economic growth.These partnerships include

- Open communication
- Shared decision-making
- Transparency
- Mutual benefit
- Commitment to sustainability
- Ethical business practices

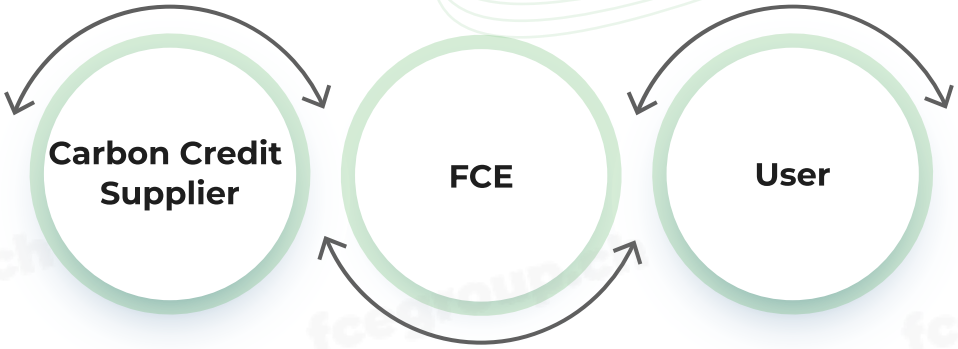
Responsible partnerships help create long-term value by improving relationships with stakeholders, enhancing brand reputation, and contributing to society's and the planet's well-being.

04

How does CaFFee work?

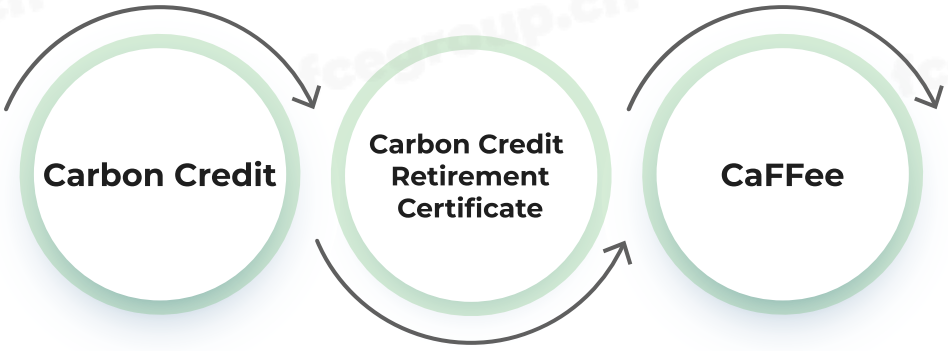
The CaFFee is tokenized on the FCE carbon credit blockchain. The features and benefits of CaFFee are explored in the relevant sections of this document.

Carbon Credit Tokenization as a Service



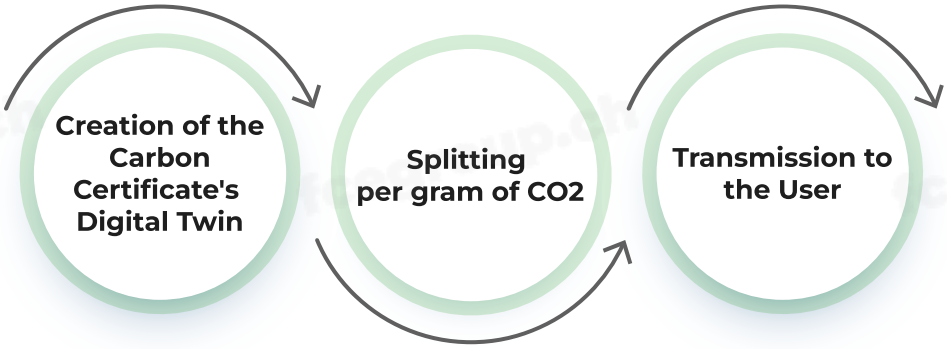
The tokenization of carbon credits includes several steps:

Tokenization Flow



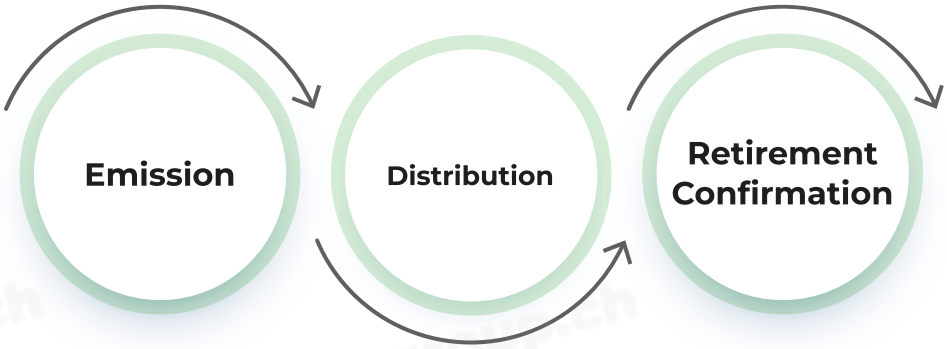
- Get a high-quality carbon credit from a valid and eligible supplier of carbon credits. The carbon credit supplier is a significant part of the tokenization process.

Tokenization Process



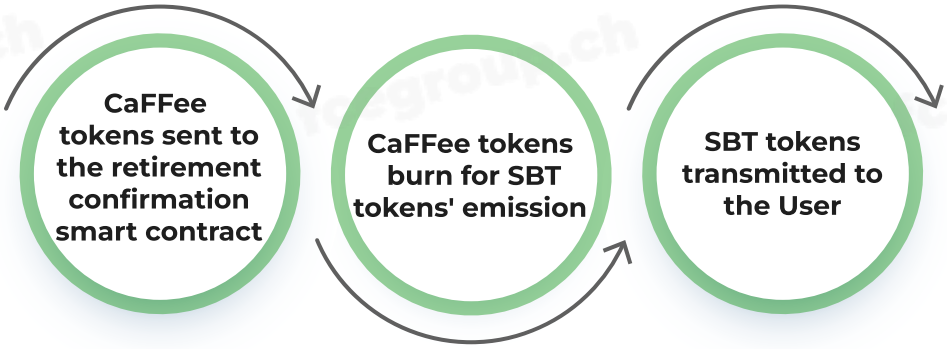
- FCE deploys a smart contract for this certificate on its permissioned decentralized network. FCE will create a digital twin of the carbon credit – a full copy of an actual carbon credit that inherits all its features and characteristics but with several additional advantages. All data related to this carbon credit is contained and stored in its digital version.
- After that, the total credit volume is divided into shares, with a minimum unit of one gram. Each Web3 user has an opportunity to buy, store, transfer, or retire any amount of the tokenized carbon credit of the selected project. This process simplifies carbon credit ownership. For users unfamiliar with blockchain technology, the service can easily be provided through intermediaries.

CaFFee's Lifecycle



Retirement is an essential and logical conclusion of the carbon credit lifecycle. This stage is implemented using a smart contract that exchanges and withdraws from circulation the required number of credit tokens for tokens certifying the carbon footprint's offset.

CaFFee Carbon Offsetting Flow



That is, when offsetting their carbon footprint, the end user – the owner of the CaFFee – sends the tokens to the retirement confirmation smart contract and receives a share of the retired carbon offset certificate in return. Once the end user receives this digital certificate, it is nonfungible, unmovable, and permanently related to this user. Also, the end-user has full access to this information and keeps it private.

Finally, the CaFFee is a system where the party requesting tokenization pays the carbon credit cost by directing funds to regenerate the environment.

05

CaFFee's carbon credit suppliers: Roles and Responsibilities

CaFFee's carbon credits suppliers are companies or organizations that sell or trade high-quality carbon credits that represent the reduction or removal of one metric tonne of carbon dioxide (CO2). These companies should comply with cap-and-trade regulations and offset schemes such as the Clean Development Mechanism (CDM) under the United Nations Framework Convention on Climate Change (UNFCCC).

What is a high-quality carbon credit?

A high-quality carbon credit is a tradable certificate representing a reduction or removal of one metric tonne of carbon dioxide (CO2) or other greenhouse gases from the atmosphere. Carbon credits offset emissions from power plants, factories, and transportation.

A high-quality carbon credit meets specific standards of credibility and environmental impact. These standards are established by international organizations such as the United Nations Framework Convention on Climate Change (UNFCCC) or regional carbon markets.

To be considered high quality, a carbon credit must:

- Represent actual and verified emissions reductions. The reduction or removal of emissions must be accurate, permanent, and independently verified to ensure the carbon credit represents a proper reduction in greenhouse gas emissions.
- Be additional: The emissions reduction must be over and above what would have occurred anyway without the intervention of the carbon credit project.
- Be permanent: The emissions reduction must be permanent and not subject to reversal or degradation over time.
- Be transparent: The carbon credit must be transparently reported and monitored to ensure that it meets all quality standards.

CaFFee's carbon credit suppliers are eligible to sell or trade credits generated through carbon offset projects such as renewable energy generation or reforestation or may help companies develop their carbon credits through emissions reduction projects.CaFFee's carbon credit suppliers are eligible to sell or trade credits generated through carbon offset projects such as renewable energy generation or reforestation or may help companies develop their carbon credits through emissions reduction projects.

The responsibilities of CaFFee carbon credit supplier include:

- Identifying and sourcing carbon credits: CaFFee's carbon credit suppliers must be able to find and acquire carbon credits from various sources, such as carbon offset projects and emissions reduction programs.
- Verifying the quality of carbon credits: CaFFee's carbon credit suppliers must ensure the carbon credits they supply are valid and have been generated according to relevant regulations and standards.
- Consulting and advising clients: CaFFee's carbon credit suppliers may advise and guide clients on how to reduce greenhouse gas emissions and use carbon credits effectively.
- Managing transactions and tracking credit usage: CaFFee's carbon credit suppliers must manage the buying and selling of carbon credits and keep track of how clients are using the credits.
- Maintaining accurate records: Carbon credit suppliers must maintain accurate records of all carbon credit transactions and the usage of credits to demonstrate compliance with regulations and standards.

06

CaFFee on TransparenTerra is a comprehensive ReFi solution

CaFFee was initially designed as an independent ReFi tool to simplify carbon footprint offsetting, but its integration and interconnection with other sustainability software might significantly enhance the companies' sustainability development outcomes.

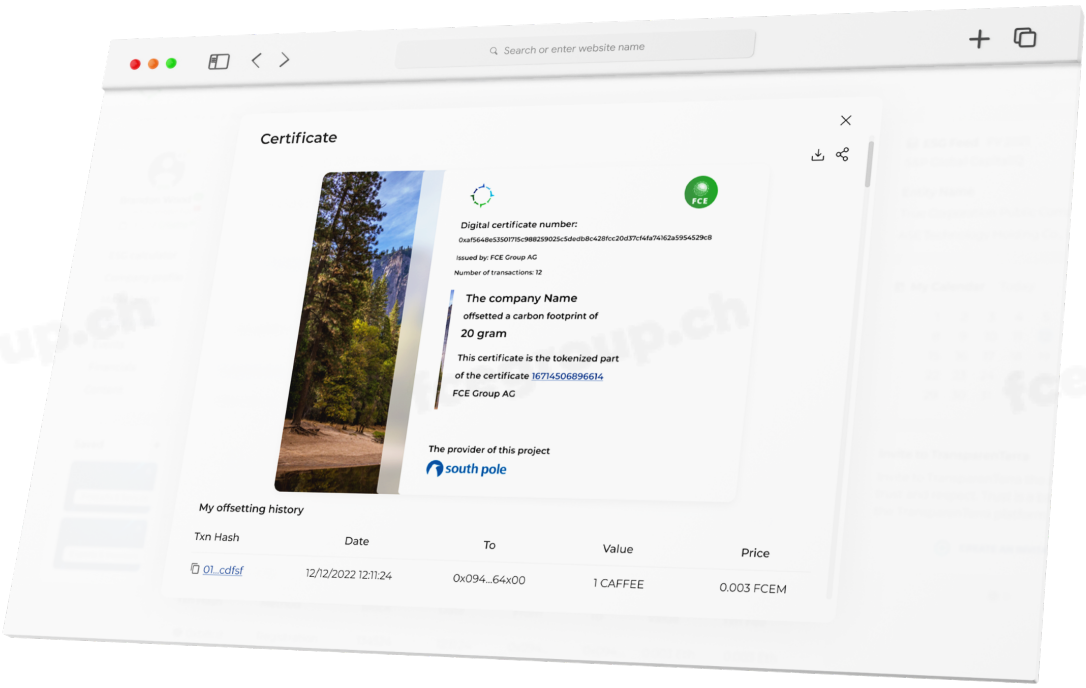
6.1. Use cases: FCE Blockchain and TransparenTerra

FCE Blockchain. The idea to shape CaFFee as an independent tool was born when the FCE team reviewed the concept of the FCE blockchain and relaunched it as a fully “green” and sustainable blockchain ecosystem where all transactions are instantly offset by carbon credits provided by our reliable partners.

The FCE blockchain generates only one type of fee: a climate impact fee the FCE blockchain charges for any transaction created within the system. Since the FCE blockchain is a permissioned and trust-based ecosystem, it doesn’t need a competition-based mining system with a generation of complex hashes that consume a lot of energy.

The FCE blockchain strives to be an independent professional ecosystem for a sustainable economy. As a core principle, the FCE blockchain should be initially sustainable. Although the energy consumption of the FCE blockchain is minimal, energy is consumed when users interact with the FCE blockchain. Therefore, every transaction created by businesses or individual users on the FCE blockchain will cost them a climate fee (CaFFee) that directly offsets the carbon footprint of the transaction.

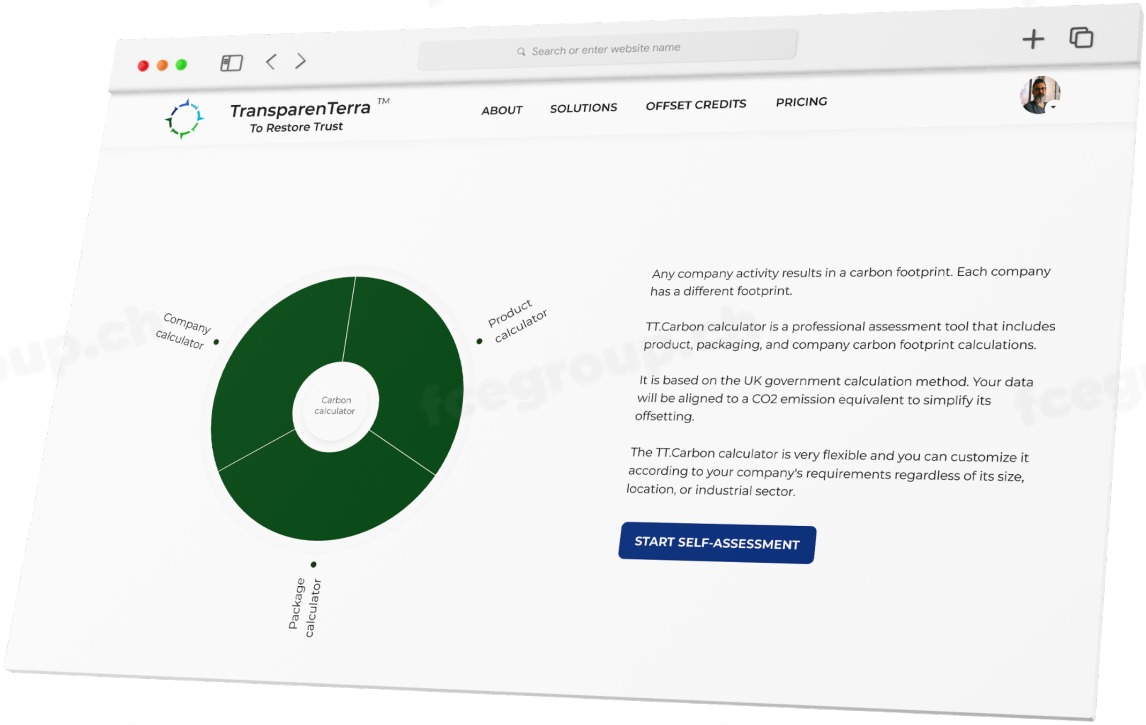
> **All FCE blockchain users can share the offset certificates they own in their profiles for sustainability reporting purposes. This is how TransparenTerra shares its sustainability with all users.**



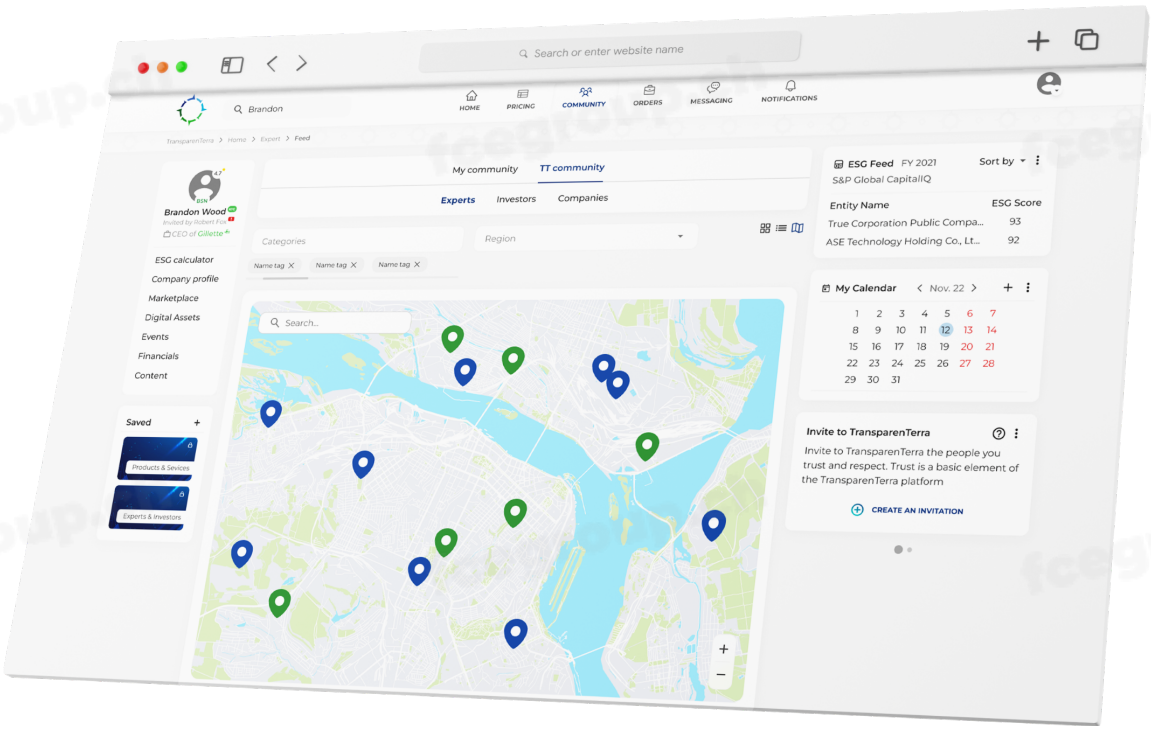
The TransparenTerra Platform, the first adopter of CaFFee, combinescarbon credits tokenization with other parts of the MRV (Measure, Report, Verify) system, stretching it to the MRVO ecosystem (where O stands for Offsetting, via the CaFFee).

The MRV concept applies to carbon footprint offsetting in the following ways:

- Measurement: The first step in carbon footprint offsetting is to accurately measure the emissions the company or individual is responsible for. The TT.Carbon Calculator can be used to ensure this measurement is accurate,



- Verification: The global sustainability expert community on TransparenTerra works to verify emissions reductions from offset projects. Independent third-party verifiers can assess the emissions reductions of offset projects to ensure they are real, permanent, and additional.



- Reporting: Once a company completes its assessment, it can automatically generate a report of its emissions reductions through carbon footprint offsetting in a transparent and standardized manner, which can help build trust and credibility with stakeholders.

	GRI	CDR	SASB	TCFD
	1997 GLOBAL YEAR OF LAUNCH GRI Standarts	2000 GLOBAL YEAR OF LAUNCH CDR Questionnaire and reporting guidance	2012 US YEAR OF LAUNCH Sustainability Accounting standasts	2017 GLOBAL YEAR OF LAUNCH Task Force an Climate-related Financial Disclosures
Purpose	Help organizations report on economic, environmental & social impacts considering a wide range of interests.	Capture environmental perfomance data related to GHG emissions, water, forest, and supply chain.	Facilitate disclosure og material sustainability information in SEC filings.	Encourage firms to align climate-related risk disclosures with investors' needs.
Audience	**Broad set of stakeholders**	**Investors, buyers, other stakeholders**	**Investors**	**Investors, Lenders, insurers**
Where to report	Corporate sustainability report	CDP's omline reporting platform	Sec Form 10-K, 20-F filings	Annual financial filings (e.g., annual report)
Focus area	Environment Social Covernance	E, S, G	E, S, G	E, G
Information to repoprt	· **General disclosures:** Organization's profile, strategy, ethics and integrity, governance, stakeholder engagement practices, and reporting process. · **Economic:** Perfomane, market presense, indirect economic impacts, procurement prectices, anti-corruption and anti-competitive behavior. · **Environment:** Materials, energy, water and effluents, biodiversity, emissions, effluents and waste, environmental compliance, and supplier environmental assessment. · **Social:** Employment labor/management relations, occupational health and safety, training and education, diversity and equal opportunity, nondiscrimination, freedom of association and collective bargaining, child labor, etc.	· **Climate change:** Risks and low-carbon opportunities. · **Forest:** How organizations produce, source, and use major soft commodities associated with detrimental impacts on natural resources. · **Water security:** Company's management, governance, use, and stewardship of water resources. · **Supply chain:** Management of climate change, forest and water security.	· **Environment:** Corporate impacts on the environment. · **Social capital:** Human rights, protection of vulnerable groups, local economic development, access to and quality of products, and services, affordability, responsible marketing, and customer privacy. · **Human capital:** Issues affecting employee productivity (e.g., employee engagement, diversity, and incentives and compensation). · **Business model and innovation:** Impact of sustainability issues on innovation and business models, and the integration of these issues in a company's value-creation process. · **Leadership and governance:** Management of issues inherent to the business model or common practice in the industry that are in potential conflict with the interests of broader stakeholder groups.	· **Governance:** Governance around climate-related risks and opportunities. · **Strategy:** The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material. · **Risk management:** How the organization identifies, assesses, and manages climate-related risks. · **Metrics and targets:** The metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Prescriptive or flexible	**Prescriptive**	**Prescriptive**	**Prescriptive**	**Flexible**
Focus	Agnostic (+some sector-specific guidance)	Specific	Specific	Agnostic (+some sector-specific guidance)

- Monitoring and Tracking: TransparenTerra is the first professional business platform for a sustainable economy that harnesses the “green” FCE blockchain concept. It allows for monitoring and tracking of the impact of carbon footprint offset over time to ensure that emissions reductions are sustained and that offset projects continue to produce their intended benefits.

Integrating CaFFee into an MRV system means combining the processes of carbon offsetting and MRV to create a comprehensive system for managing and reducing greenhouse gas emissions. This integration provides several benefits:

- **Increased transparency:** To demonstrate the accuracy and transparency of a company’s emissions data and the reductions the company has achieved through offset projects. This can help build trust and credibility with stakeholders.
- **Improved tracking:** A company’s direct emissions and the reductions it has achieved through offset projects can be tracked in a single system. This system can help map emissions footprints and progress toward reducing emissions.
- **Better decision-making:** CaFFee and MRV enable data-driven decisions about a company’s emissions and how to minimize them. For example, decision-makers can use the MRV process to identify areas where they can improve their energy efficiency and reduce direct emissions, and carbon offsets to offset emissions they cannot directly reduce.
- **Enhanced sustainability:** By integrating CaFFee into the TransparenTerra MRV system, companies can achieve more comprehensive and sustained emissions reductions, leading to improved sustainability performance.

Such integration allows companies and entrepreneurs to be more transparent and accountable about their emissions and make responsible decisions about reducing them and achieving their sustainability goals.

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What makes the CaFFee a standout solution?

While we have already elaborated on the advantages of CaFFee as a ReFi tool, it makes sense to underline that CaFFee addresses the array of challenges that other blockchain projects faced while pioneering carbon credit tokenization.

CaFFee generates liquidity and forwards it instantly and directly to offset projects. No one carbon credit will be tokenized before and without retirement. FCE puts offset projects on top of the VCM as parties with exceptional value roles.The flow looks like this: Buy -> Retire-> Tokenize-> Collect, and then notarize the list of beneficiaries. The funds go instantly and directly to the projects stimulating their development.

Tokenization and splitting of carbon credits per 1g of CO2 will encourage massive engagement of giant B2C aggregators and most SMEs. After all, CaFFee bridges the gap and eliminates intermediaries between individuals, consumers, and the VCM. CaFFee creates a digital shared ownership registry of the already retired carbon credits and provides “rewarding” certification to small stakeholders and individuals.

FCE expects that CaFFee will drastically improve consumer behavior regarding sustainability and circularity and stimulate impact projects and entrepreneurship.

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Summary

The FCE team believes the tokenization of carbon credits can offer several benefits:

- Transparency: Tokenization allows for a transparent and tamper-proof record of carbon credit transactions, making it easier for buyers to compare and verify the quality of extra carbon credits.
- Traceability: Tokenized carbon credits can be tracked and verified throughout their lifecycle, from creation to retirement.
- Security: Transparency guarantees fraud protection and prevents double counting.
- Liquidity: Tokenized carbon credits can be easily bought and sold on decentralized carbon markets, increasing the liquidity of the carbon credit market.
- Lower transaction costs: Tokenized carbon credits can be traded at low transaction costs and a reduced need for intermediaries.
- Massive engagement: Simple and reliable digital sustainability solutions will lead to the rapid development of a sustainable and circular economy.

It's important to note that the tokenization of carbon credits is still a relatively new concept and that some regulatory and technical challenges remain to be addressed.

Thank you

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