



Phaeton
Carbon Credit Exchange

INTERNATIONAL CARBON CREDIT EXCHANGE

WHITE PAPER





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1. INTRODUCTION

By the year 2050, the World's population will reach 9.8 billion. With the current human consumption, we will need the equivalent of two planets to satisfy our demand for natural resources. Unless we adjust our current economic model, there will be nothing left for future generations. What is the solution? We can start by measuring and paying for the environmental impacts embedded within the products and services we consume. A leading scientific study estimates that the World's natural capital, air, water, forests, and biodiversity, would be worth more than \$300 trillion. Currently, we have no mechanism to price this natural capital. We know how to price the lumber we take from the forest, but we do not know how to price the environmental benefits of an existing forest without a defined value. We have no way of accounting for the ecological impacts nor investing in its sustainability. Today, the only means of pricing natural capital comes in the form of carbon credits.

Current CO2 emissions are estimated at 55 billion tonnes annually. Even if we cut this down to zero in the next decade, estimates put the long-term warming impact at 1.5 to 2C. It will have dire consequences such as changes

to sea level, food production, and public health. The rate of increase in emissions far outstrips the pace at which we can incentivise reduced emissions. Globally, our ability to generate viable carbon credits is less than 25% of our current annual pollution levels, and there are decades of the backlog. Voluntary carbon credits in the context of slow emissions reductions and increasing ecological awareness may become scarce and valuable. A carbon credit is a digital certificate that proves an organisation, or an environmental project, has compensated for the emission of one tonne of CO2 in a given year. There are two main types of carbon credits, namely, regulated and voluntary. The regulated market consists of credits generated and purchased under cap-and-trade or emission-control regimes, which expires if unused. In contrast, voluntary credits are perennial that expires when an individual or organisation decides to

spend the credit to offset a unit of pollution. While the regulated market represents the lion's share of the carbon credit market today, there are significant challenges as we advance with the regulated sector. These challenges include:

- Poor enforcement of agreed standards to date.
- Local standards can vary greatly.
- Lack of free capital markets leading to significant inconsistencies in pricing.

Voluntary credits are not only of higher value to individuals or organisations looking to compensate for the respective environmental impact, but it also provides the opportunity for individuals to support the projects they are most interested indirectly. In addition, speculators or hedgers with an interest or exposure to the cost of offsetting carbon can act as active market participants.

By tokenising standard Voluntary Carbon Units, we can accelerate the trade of emission-reduction credits through global access, real-time transparency, instant settlement and increased liquidity. It includes liquidity and the ability to self-custody. On an international level, each carbon credit token represents a one-year tonne of CO2 emissions averted. Verified Carbon Units substantiate these credits in the registries of Verra and other leading standards agencies. The Universal Carbon Foundation initially provides project selection and state of the art due diligence. In Australia, these carbon credit units are defined as ACCUs.

Each token can be "burned" at any time to offset one tonne of carbon emissions. Until burned, a carbon credit can be held and traded. Only when burned is the unit of pollution permanently removed. It maps directly to the retirement of the corresponding carbon credit and ties perfectly to the compensation efforts by both individuals and organisations.

2. THE PROBLEM

Civilisation faces vast challenges relating to our coexistence with wildlife, pollution and the risks associated with a changing climate. The current 7.8 billion world population is expected to reach 8.6 billion in 2030, 9.8 billion in 2050 and 11.2 billion in 2100, according to a new United Nations report launched in 2020. It equates to approximately 83 million people being added to the World's population annually. The impact of so many humans on the environment takes on two primary forms:

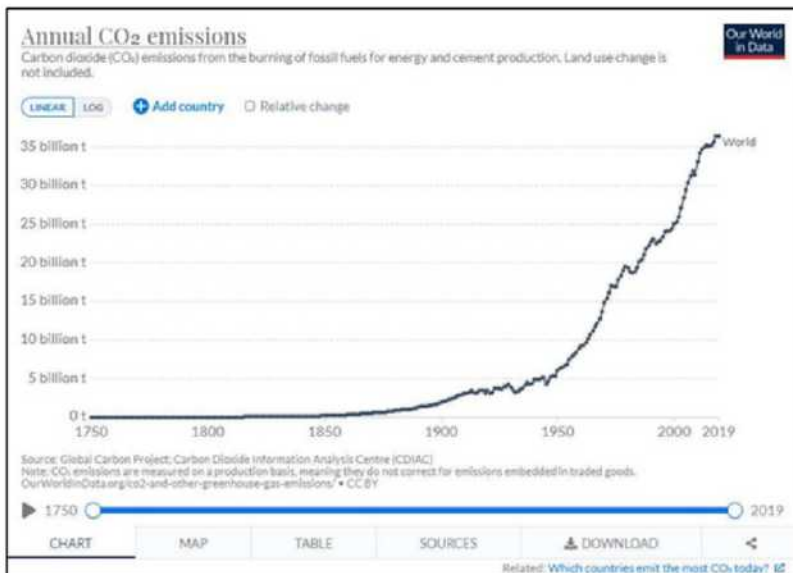
- Consumption of resources such as land, food, water, air, fossil fuels and minerals
- Waste products as a result of consumption such as air and water pollutants, toxic materials, and greenhouse gases

As the world population grows, the limits of essential global resources such as potable water, fertile land, forests, and fisheries are increasing. Whether we have 1 billion or 10 billion people, we only have one planet with finite resources. The effects of overpopulation are severe—one of the most severe being the degradation of the environment. Humans require space and plenty of it, whether for farmland or industries. An increased population results in more land clearing, resulting in severely damaged ecosystems. Without enough trees to

filter the air, CO₂ levels increase, damaging every organism on Earth.

No doubt, human population growth is a significant contributor to global warming, given that humans use fossil fuels to power their increasingly mechanised lifestyles. More people mean more demand for oil, gas, coal and other fuels mined or drilled from below the Earth's surface. When burnt, these fossil fuels emit enough carbon dioxide (CO₂) into the atmosphere to trap warm air, creating a greenhouse around the Earth. According to the United Nations Population Fund, the human population grew from 1.6 billion to 6.1 billion people during the 20th century period. During this timeframe, the emissions of CO₂ grew 12-fold. As a result, environmentalists and others are increasingly concerned about whether the planet can withstand the additional load of greenhouse gases entering the atmosphere and causing havoc on ecosystems. CO₂ emissions

Carbon dioxide emissions are the primary driver of global climate change. It is widely recognised that to avoid the worst impacts of climate change, the World needs to reduce emissions urgently. Below is a chart showing the growth of CO₂ from 1750 to 2019.



In this chart, we see the growth of global emissions from the mid-18th century through to today. We see that before the Industrial Revolution, emissions were exceptionally low. The increase in emissions was still relatively slow until the mid-20th century. In 1950 the World emitted just over 5 billion tonnes of (CO₂) – about the same as the US, or half of China's annual emissions today. By 1990 this had quadrupled to 22 billion tonnes. Emissions have continued to multiply; we now emit over 36 billion tonnes each year. Emissions growth has slowed over the last few years, but they have yet to reach their peak.

3. SOLUTION -CARBON CREDITS

One of the solutions to carbon emissions is the introduction of Carbon Credit trading. How does it work?

Every time an organisation relies on burning fossil fuels, they create carbon emissions, also known as a carbon footprint. When these emissions enter the atmosphere, they accelerate climate change, bringing, among other things, more extreme weather. Thankfully, the plummeting costs of low carbon technologies and more resource-efficient practices mean that many organisations are now reducing their footprints and saving on energy expenditure.

However, this is still not enough to reduce increasing emissions, and prevention of carbon dioxide emissions is impossible for most organisations. It is where carbon credits trading come in. Organisations buy carbon credits to compensate for the unavoidable emissions they create. The sale of these credits helps finance projects that reduce or absorb carbon emissions, increasing the health and prosperity of communities globally. These projects aim to reduce the need to burn fossil fuels or draw greenhouse gases directly out of the air. Accreditations from internationally recognised standards assure us that the projects producing carbon credits deliver the positive environmental and social impacts they set out to achieve. Below is the history and current situation with Carbon Credits.

- **History**

The first carbon offsetting market is the United Nations' clean development mechanism (CDM) established under the 1997 Kyoto Protocol, where around 190 countries agreed to a country-by-country emissions reduction target. More than 8,100 projects in 111 countries had registered with the scheme. These countries were handed out more than 2 billion carbon credits, called Certified Emission Reductions (CERs), representing 2 billion tonnes of carbon dioxide reduction or avoidance.

- **Historic Price Crash**

Around 45% of the Kyoto credits were awarded to a handful of projects, mainly in Asia, to cut industrial gases. Although carbon trading seems excellent, in theory, it has not been easy to put into practice. Following widespread reports, corruption and abuse of the system, the market collapsed. A report in

2015 gathered that an estimated 80% of sustainable projects under the trading scheme were questionable, enabling emissions to increase by roughly 600 million metric tonnes.

- **Current market**

Progress on the scheme had broken down at the last talks in Madrid in 2019 mainly because countries disagreed on treating the millions of old credits created under the CDM and whether they should be allowed under the Paris agreement. However, there are several emission trading markets around the World that are at both national and regional levels. The oldest active carbon market is the European Union's emission trading system, launched in 2005. Other schemes are still operating in Canada, Japan, New Zealand, South Korea and Australia.

- **Voluntary Offset Market Versus Compliance**

The voluntary carbon offset market differs from compliance, or cap-and-trade schemes, enshrined in law, such as the European Union ETS, which set a finite carbon budget and allow emitters to trade allowances. Buyers in the voluntary market are mainly corporate clients seeking to meet internal targets to reduce their carbon footprint. Theoretically, the number of offset credits can grow as long as new projects feed into the market.

- **No Single Global Standard**

There is no single globalised carbon offset standard. Instead, a handful of registries issue credits according to a specific set of criteria checked by third-party verifiers. Local communities typically work with western-based developers and brokers to set up projects to underpin credits, ranging from renewable energy sites in Asia to clean cookstoves in Africa, forestation in South America and waste management in eastern Europe.

- **Opaque Pricing**

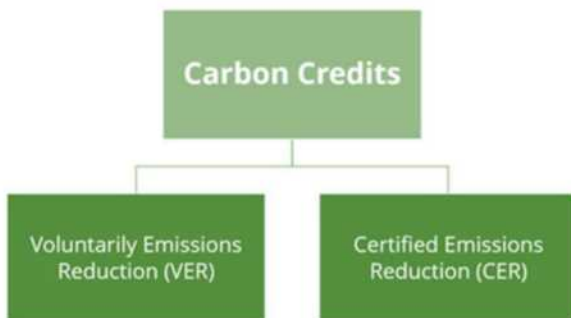
The carbon offset market has been defined by bilateral, project-specific deals, whereby the marketing of specific projects is instrumental in determining the price of the credit. Beyond the carbon sequestration potential of a project, additional socio-economic or biodiversity benefits can dictate the price.

4. TYPES OF CARBON CREDITS

There are two types of credits:

- **Voluntary emissions reduction (VER):** A carbon offset that is exchanged in the over the counter or voluntary market for credits.
- **Certified emissions reduction (CER):** Emission units (or credits) created through a regulatory framework to offset a project's emissions.

The main difference between the two is that a third-party certifying body regulates the CER instead of the VER.



TRADING CARBON CREDITS

Governments are trying to reduce their emissions through carbon trading through a market-based system that provides economic incentives for countries and businesses to reduce their environmental footprint. However, almost every activity from travel to farming leads to carbon dioxide emissions, contributing to climate change's greenhouse effect.

Carbon credits can be traded on both private and public markets. Current rules of trading allow the international

transfer of credits. The price of credits is primarily driven by the levels of supply and demand in the markets. Due to the variation in the supply and demand in different countries, the prices of the credits fluctuate.

Although carbon credits are beneficial to society, it is not easy for an average investor to start using them as investment vehicles. This is because the certified emissions reductions (CERs) are the only product used as investments in the credits. However, CERs are sold by special carbon funds established by large financial institutions. The carbon funds provide small investors with the opportunity to enter the market. In addition, particular exchanges specialise in trading the credits, including the European Climate Exchange, the NASDAQ OMX Commodities Europe exchange, and the European Energy Exchange.

Carbon trading does not require as much government intervention in the economy, leaving businesses to find their solutions. As long as the cost of emitting greenhouse gases is high enough to encourage these alternatives, many environmentalists believe it could be a relatively straightforward and efficient method to drive decarbonisation. However, there was an oversupply of carbon credits during the 2008 financial crisis, so the price of polluting dropped in the EU's trading system.

Today, the increasing popularity of cap-and-trade schemes and the rising price of carbon credits force companies to consider their effect on the climate and reduce emissions. Although not perfect, the EU's carbon trading scheme is a model for other economies to emulate. Moreover, with creating the most significant carbon market in China and the US and returning to the Paris Climate Agreement, the global carbon market size looks to grow.



5. AUSTRALIAN CARBON CREDITS

In Australia, the legislative scheme for creating carbon credits from voluntary emissions reduction projects is known as 'carbon farming' established in 2014. This scheme allows landowners to earn Australian Carbon Credit Units (ACCUs) by undertaking emissions avoidance or sequestration projects that comply with approved policies. There are currently more than 30 approved practices. Some include:

- Agricultural practices and vegetation management.
- Increasing energy and fuel efficiency in public, commercial and industrial settings; and
- Abatement projects in the mining, oil, gas, transport sectors, waste, and wastewater sectors.

Emissions Reduction Fund (ERF)

The Australian Federal Government has established a Climate Solutions Fund (CSF) to support emissions reduction projects and drive the Government to reduce emissions 26-28% below 2005 levels by 2030. Landholders throughout every state and territory have signed up for over 730 different carbon projects. The CSF was established initially as the Emissions Reduction Fund (ERF) in 2014 with an initial \$2.55B in funds. The ERF rebranded as the CSF, has been provided with an additional \$2B in funds extending the CSF for 15 years. The Federal Government uses funds in the ERF/ CSF to enter into contracts to acquire ACCUs directly from enterprises undertaking emissions reduction projects. Contracts are awarded via a reverse auction system. ACCUs can also be sold into the voluntary market.

Key opportunities and risks

There are good opportunities for individuals and businesses to generate new income streams through the generation and sale of ACCUs. ACCUs are priced higher than many other types of international carbon credits, and their price has remained relatively stable. The Government is developing new methods. In May 2020, the Federal Government agreed to investigate and implement a range of systems to enhance and incentivise participation in the CSF / ERF, including:

- Allowing for the earlier release of ACCUs for some projects with significant upfront costs instead of waiting until the emissions abatement has occurred.
- Creating a new carbon credit which can be granted where a facility covered by the Safeguard Mechanism reduces their emissions below their baseline; and
- Other incentives such as co-investment programs and fixed prices.

However, there are some risks, such as political volatility in climate change policies. In addition, although the scheme survived the previous Government's carbon

pricing mechanism, it still relies on a market for emissions generated from policy cycle to policy cycle. Therefore, a long-term mandatory emissions market does not underpin it.

AUSTRALIAN CARBON CREDIT UNIT

(ACCU) What is an ACCU?

An ACCU is a unit issued to a proponent by the Clean Energy Regulator. Each ACCU issued represents one tonne of carbon dioxide equivalent (tCO₂-e) stored or avoided by a project. An ACCU can only be given to a proponent who has a Registry account opened after the Regulator has considered if they are a 'fit and proper'.

Issue of ACCUs

The Regulator issues ACCUs for greenhouse gas abatement activities. The issuance of ACCUs is governed by the CFI Act 2011, the Carbon Credits (Carbon Farming Initiative) Regulations 2011 (CFI Regulations 2011) and the Carbon Credits (Carbon Farming Initiative) Rule 2015 (CFI Rule 2015). In addition, several requirements must be satisfied before a project can be claimed to be an 'eligible offsets project', which includes:

- The project proponent must pass a 'fit and proper person test'.
- There must be an approved methodology for the type of project.
- The project must deliver abatement that is additional to what would occur in the absence of the project.
- The project must be in line with the policy and comply with other scheme eligibility requirements.
- The project proponent must report to the Regulator on the conduct of the project and the abatement achieved. In addition, a registered greenhouse and energy auditor must prepare specific reports.

The number of ACCUs issued is equivalent to the number

specified in that certificate. This number reflects the number of tonnes of carbon dioxide achieved by the project over a specific period. If the project is a sequestration offsets project, the number is reduced by a risk of reversal buffer, currently set at 5%. If the project has a 25-year permanence, the number is reduced by 20% or a percentage specified in the legislative rules.

Selling ACCUs to the Commonwealth

ACCUs issued to a proponent can be sold to the Commonwealth under a carbon abatement contract. The proponent enters into a carbon abatement contract with the Regulator due to participation in a carbon abatement purchasing process.

Relinquishing ACCUs

There are two methods of relinquishing ACCUs, namely. Mandatory relinquishment - ACCUs may be required to be relinquished if:

- the issue of the ACCUs is attributable to the giving of false or misleading information,
- the ACCUs were issued to a sequestration offsets project, and the declaration of the project as an eligible offsets project has been revoked, or
- the ACCUs were allocated to a sequestration offsets project, and there has been a complete or partial reversal of sequestration.

Voluntary relinquishment - ACCUs may be voluntarily relinquished:

- to voluntarily terminate a sequestration offsets project, or
- to release a carbon maintenance obligation imposed on a project area.

Transferring ACCUs

- An ACCU is transferable within Australia between accounts in the Registry.
- An ACCU may be transmitted by assignment (sale or gift) or by operation of law (death or bankruptcy). However, the transmission of an ACCU is of no force until the Regulator removes the entry for the unit in the transferor's Registry account and makes an entry for the unit in the transferee's account.
- ACCUs cannot be transferred out of the Registry into an account in a foreign registry.
- The Regulator may restrict transfers in, out or within the Registry to ensure the integrity of the Registry. It is aimed to prevent, mitigate, or minimise abuse and mitigate or minimise criminal activity.

Trading ACCUs

There are four main ways that ACCUs are sold:

1. Government contract

Multi-year contracts with the Australian Government's Emission Reduction Fund

2. Carbon Purchase Agreement

Multi-year contracts with a large business that want to offset their emissions.

3. Aggregation contract

Multi-year contracts with a large business aggregating smaller carbon farming projects and managing contract delivery risk with the Australian Government.

4. Spot trade

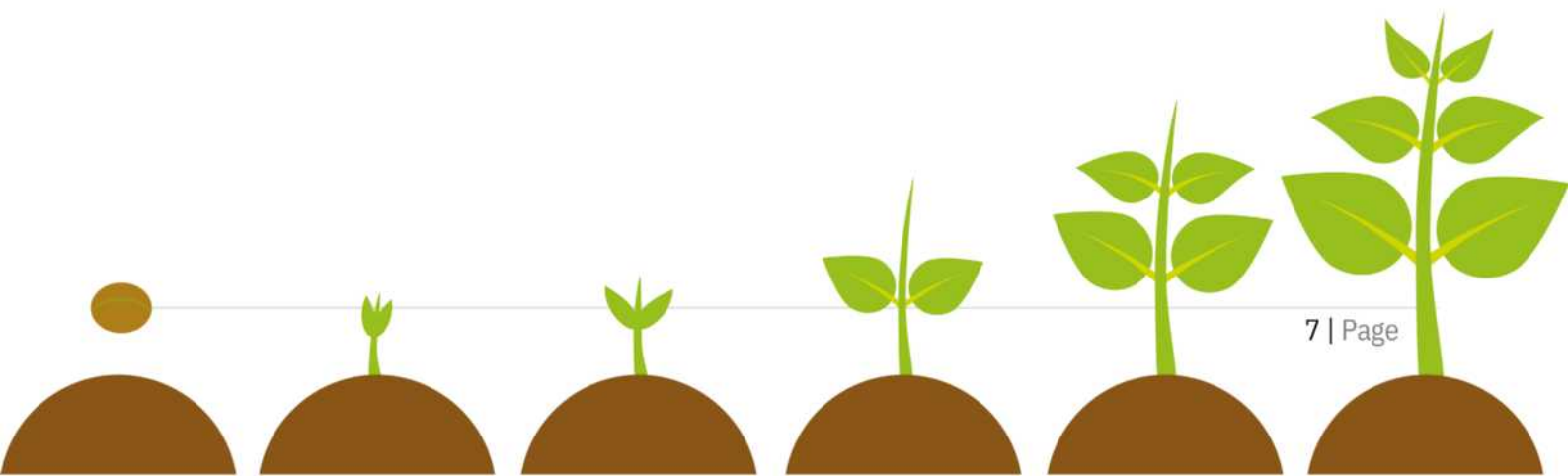
Single trades with another carbon farmer, a large business, or the Australian Government.

Buying and selling ACCUs on behalf of another person is also a 'designated service' for the Anti-money Laundering and Counter-terrorism Financing Act 2006. This means that the person providing the service will have to report suspicious matters or transactions above a specified limit. In addition, except in exceptional cases, the service provider will also verify their customer's identity before trading in ACCUs.

Tax treatment of ACCUs

Generally, the following tax treatment of ACCUs applies:

- The cost of acquiring an ACCU is tax-deductible, with the deduction effectively being deferred through the rolling balance method until the year in which the ACCU is sold or surrendered,
- The standard income tax provisions generally determine the availability (if any) of a deduction for the expenses you incur in undertaking activities under the CFI.
- The sale proceeds of an ACCU are assessable income on revenue account in the income year the ACCU is sold.
- Supplies of Kyoto ACCUs and non-Kyoto ACCUs are GST-free, and
- Sellers of ACCUs are deemed to have received market value for an ACCU in certain circumstances (for example, transactions between related entities).



6. BLOCKCHAIN AND TOKENOMICS

The global market for carbon credits has languished in the doldrums for the last decade due to lack of trust, poor performance, lack of trans-jurisdictional standards, and fraudulent activity. Blockchain, or distributed ledger technology (DLT), can provide a solution for these issues. A blockchain registry of emissions, together with growing standardisation, measurement, and verification, can give assurances to issuers, Emitters, investors and traders. The distributed ledger is ideal for carbon credit trading that is cross-jurisdictional. The benefits in transparency, security, traceability, efficiency, lower costs, and increased transaction speeds made possible by distributed ledger accounting will transform the carbon credit exchange markets.

TOKENOMICS

ICCE using Phaeton Blockchain and token economics, is creating a Carbon Credit Exchange Platform allowing a larger pool of players to participate in carbon credit trading. ICCE aims to lower the barrier to entry to this asset class. By tokenising carbon credits and leveraging the benefits of blockchain technology, ICCE can reduce administrative costs and increase automation.

TOKENISING CARBON CREDITS

Tokenisation and the Blockchain offer numerous advantages, including increased liquidity and transparency, enhanced security, and simplified management. But tokenisation is also an extremely complicated process, both technically and legally. A token represents ownership of the underlying tangible asset, an equity interest in a legal entity that owns that asset, an interest in a debt secured by the asset, a right to share in profits arising from the use of the asset, or more. Nevertheless, tokenisation can revolutionise the global carbon credit trading market. It offers issuers and investors several significant advantages, which include the following.

Tokenisation is the process of digitally representing an asset on a distributed ledger. Asset tokenisation involves representing assets on the ledger by linking or embedding by convention the economic value and rights derived from these assets into digital tokens created on the Blockchain. Thus, tokens issued in asset tokenisation exist on the chain and carry the rights of the assets they represent, acting as a store of value.

1. Liquidity

Chief among the advantages of tokenisation is liquidity. By placing carbon credit tokens on major international exchanges offers investors and traders superior liquidity.

2. Global investment pool.

With tokenisation, the pool of potential investors is genuinely global. Anyone with sufficient capital and an internet connection can easily purchase, hold, and sell real estate located anywhere in the World.

3. Reduced cost of entry.

A virtual token does not necessarily have to be sold as a whole unit. Instead, the code underlying the token may permit it to be fractionalised, allowing the issuer or subsequent holders to sell fractional tokens at lower prices. It, therefore, opens the market to smaller investors who could not otherwise participate and enables greater opportunities for diversification for wealthier investors.

4. **Standardised transactions.** Thanks to the blockchain technology on which tokenisation is built, the purchase and sale of carbon credit tokens can be implemented using standardised smart contracts, which are not individually negotiated. The terms of which are implemented automatically, reducing transaction costs substantially.

OTHER ADVANTAGES OF TOKENISATION

Tokenised carbon credits will also provide additional advantages to investors and issuers, such as:

- **Transparency**

Measurement and verification of carbon credits have varied internationally and have been subject to leakage, misallocation and even manipulation, leading to a lack of trust. Blockchain's transparency will set global standards and a return of trust.

- **Security**

A consensus is required for every transaction, from emitters, off-setters, verifiers to traders. With each transaction recorded on a public blockchain, the amounts of carbon units cannot be falsified, offering greater security.

- **Traceability**

As all data is shared, it is visible in real-time to all stakeholders; a blockchain ledger verifies each transaction. Therefore, investors and traders will know the source and value of the carbon credit units immediately.

- **Efficiency & Speed**

Agreement amongst the parties to use the Blockchain to register carbon offsets or credits will streamline measurement, reporting and verification procedures. As a result, the time between a claimant's request for credits, their approval by a designated authority, and their availability for trading on exchanges will be shortened.

- **Immutability**

After a transaction has been recorded and confirmed on the Blockchain, it essentially cannot be changed. Thus, it helps assure investors that no one can falsify transactions after the fact. (Of course, this could be a double-edged sword. A fraudulent or mistaken transaction may be difficult or impossible to reverse.)

- **Simplified Management**

Tokenisation can also lead to easier management of investors and their rights. For example, secondary transactions can be easily tracked by collaborating with third-party exchanges. And investors can receive distributions and exercise their other rights (e.g., voting) through the Blockchain, simplifying those processes considerably.

CARBON CREDIT NFTs

One way of tokenising Carbon Credits is through non-fungible tokens (NFTs). The non-fungible tokens (NFTs) are known as digital assets that hold unique characteristics. However, the NFTs are different from other crypto tokens. Fungible tokens are interchangeable and transferable as it contains similar details like other crypto tokens. Furthermore, fungible tokens can be divided into fractions, whereas NFT cannot since it is unique. The information present in NFTs possess special functions that are transparent and verifies the scarcity of NFTs. In addition, NFTs offers powerful ownership rights, high- level security, and immutability.



7. WHY NON-FUNGIBLE TOKENS?

Investor interest and understanding of NFTs has grown significantly over the past two years. It has the option to tokenise any asset, including carbon credits. With cryptocurrencies being accepted by a growing number of institutional investors and more businesses incorporating blockchain technology into their operations, NFT's will witness a significant demand. So how does NFTs benefit the carbon credit? Here we look at the advantages and disadvantages.

ADVANTAGES OF MFT'S

NFTs can introduce millions of people to this industry, and there is no duplication as each NFT represents a unique asset. Additional advantages include:

- **Easy to purchase and sell.**
As a dedicated marketplace for trading NFT's seamlessly, this assists non-Fungible tokens in achieving higher prices with values increasing over time.
- **Immutability**
NFT's are resistant to manipulation as robust blockchain networks secure them. Moreover, counterfeiting is difficult as all the owners will be immediately alerted by the decentralised public ledger.
- **Transparency**
Transparency is maintained by showing users a clear view of each transaction in the marketplace. In addition, the blockchain network ensures a bug-free payment process to have smooth transactions.
- **Ownership protection**
An NFT is secured against either the asset or the ownership entity of the asset. In addition, NFT buyers' interest is secured with a certificate of authentication recorded on a Blockchain Ledger.
- **Security**
Security is a prominent feature in an NFT platform concerning transactions of tokens in the marketplace. The in-built security protects from transaction losses and unwanted activities as it is secured with private keys.
- **Smart Contracts**
Smart contracts are initialised by digitally signing the agreement to prevent fraud activities and eliminate the intermediaries' fee. In addition, smart contracts are written in lines of code to automate the process.
- **Decentralisation**
An NFT platform enables all data to be copied and distributed to various blockchain networks. Each time a new block is created, the NFT platform's network updates its Blockchain to make changes.
- **Payments and charges**
Current NFT marketplaces initiate instant payments as cryptocurrency. Therefore, there will not be a need for personal information or card details to access this platform for trading.

DISADVANTAGES

While there are significant advantages in establishing an NFT marketplace, several disadvantages and challenges need addressing when setting up a new marketplace.

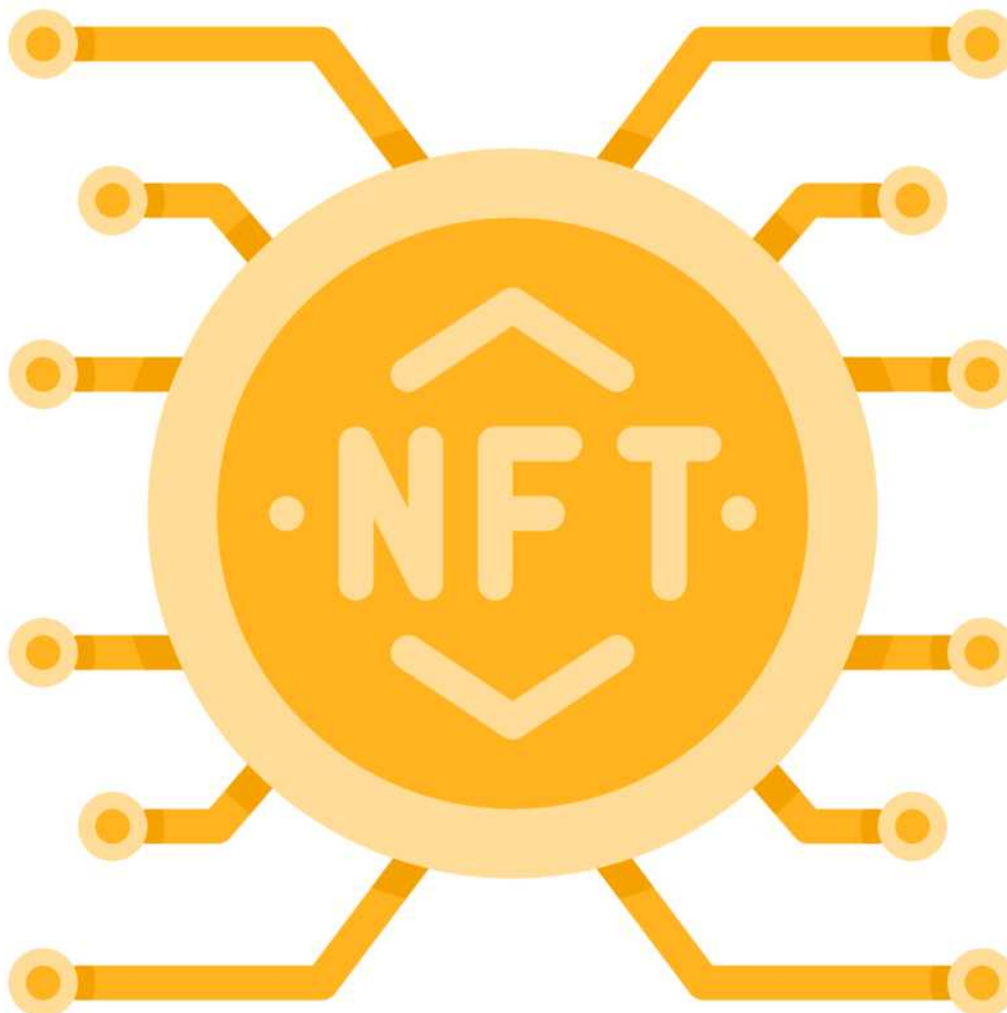
- **Significant cost and time**
Building a new marketplace for a decentralised NFT Platform can be costly and time-consuming. Also, it can be tricky to keep the structure simple so that first-timers or novices can easily use it.
- **NFT has not stood the test of time**
Some investors speculate that the NFT craze is just a bubble stemming from increased online activity following the pandemic. Most NFTs are used to predominantly sell digital art and collectibles, which prudent investors say are not sustainable. NFT's need to focus on tokenising real and tangible assets such as real estate.
- **Consumer protection**
One of the concerns with NFTs is that consumers may have no idea what they are buying. Furthermore, NFTs raises further questions about who is conducting know-your-customer and anti-money laundering procedures, whether any specific party is recording the sale of an NFT and what rights buyers have.
- **Copyright and intellectual property**
The question arises whether buyers' perception of what they bought matches the legal reality. Traders face the same issue, particularly those joining this trend. Traders have the added problem of ensuring the NFT they sell has correct authenticity.
- **Securities laws**
As NFTs are new and they may run into securities laws in counties where they are being traded. Therefore, promoters of an NFT Marketplace need to ensure they comply with the country's local securities laws.
- **Sellers could be sued.**
If people buy an NFT on the expectation that it will rise in value, they might sue the creator of the NFT if it drops in value, especially for high-ticket items.
- **Tax laws**
NFT buyers have to deal with different countries' tax laws. In Australia, for example, there is GST (Goods and Service Tax) and Capital Gain Tax to consider when an item is sold as an NFT.

- **Marketing and branding**

As a new product and brand, there will be a high cost in marketing an NFT marketplace. In addition, promoters and sponsors require a significant list of followers. Therefore, an intensive market strategy will be necessary.

Despite the disadvantages, there are significant benefits in creating Tangible NFT marketplaces. It will disrupt the traditional forms of investing in estate assets and collectables. However, like any new business or product, there will be several risks and challenges. It is therefore essential to recognise these and look at avenues to mitigate them.

Once the NFT marketplace is ready, users can create their profiles on this platform and download their wallets to store NFTs and other cryptocurrencies. Then, the user can prefer the tokens as they wish to pay and get the art for selling it on a secondary platform to earn more income. Furthermore, the users can list their collection of NFTs bought and bid for an auction to make it hassle-free access.



8. CARBON CREDIT EXCHANGE

While apps and platforms are being developed, there are very few Exchange Platforms for the digital carbon credit market. ICCE aims to unify technical, and business logic frameworks for blockchain-based bonds focused on carbon credit trading. Our goal is to make it open source and democratise the carbon credit market, making it more accessible, transparent, and efficient using Phaeton's blockchain technology. ICCE is natively built on one of the Phaeton Sidechains to serve the carbon credit industry. Primarily, ICCE is a marketplace where new Carbon Credit NFTs (CCNFTs) can be issued and traded conveniently and fluidly. In addition, it provides access to primary and secondary markets with fractionalised carbon credits, allowing Millennials to enter the market.

KEY FUNDAMENTALS

- The Design solution is a Blockchain-based Carbon Credit Exchange Platform.
- The web interfaces are built using responsive User Interface (UI), and the platform will be accessible across different devices like desktops, mobiles and tablets. In addition, the platform will be tested across other popular and latest browsers and resolutions. Furthermore, intuitive menu-based navigation is designed for easy navigation.
- It acts as a bridge between the database and User Interface for seamlessly capturing requisite data.
- Manages Blockchain-based digital format carbon credit units.
- Generates regular reports for improvement.
- Updates and generates correctness of the given data.

ICCE PROTOCOL IS BUILT WITH THE FOLLOWING VALUES IN MIND:

- Comply with all regulatory and legal frameworks throughout the carbon credit unit's lifecycle, including primary and secondary market transactions.
- Automation and disintermediation of administrative processes.
- Decentralised collaboration among stakeholders.
- Transparency and privacy.
- Core flexibility – the protocol needs to adapt to changing market structure.

ICCE STAKEHOLDERS

The stakeholders with an ICCE Platform include the following:

- *Producers*: Landowners, Framers, and entities who comply with the Clean Energy Regulator's policies.
- *Investors*: Investors can range from institutions to small everyday investors (Moms and Dads and Millennials)
- *Emitters*: Industrialists, coal-fired plants, manufacturers
- *Smart Contracts*: Smart contracts acts as the Custodian, which an independent auditor regularly audits

ICCE BLOCKCHAIN CARBON EXCHANGE PLATFORM

The ICCE Exchange Platform facilitates carbon credit producers to market and sells their carbon credits in a regulated and formal process.

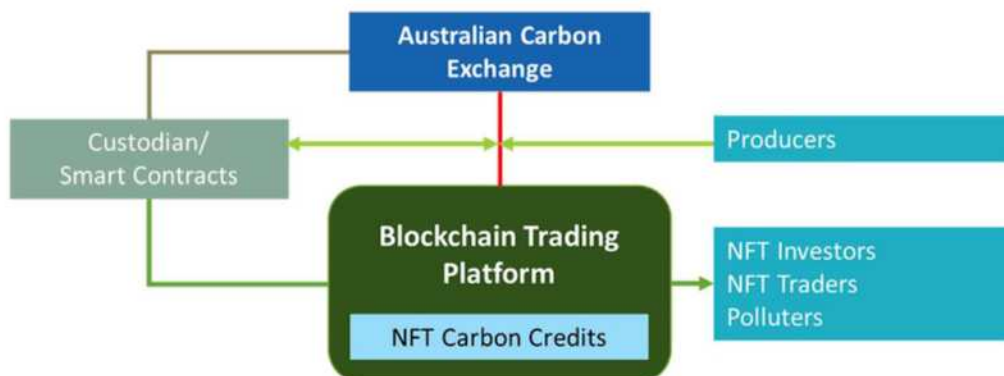


Figure 8.1 Trading Platform Structure

ICCE BLOCKCHAIN CARBON EXCHANGE PLATFORM

The ICCE Exchange Platform facilitates carbon credit producers to market and sells their carbon credits in a regulated and formal process.

Unlike Bitcoin or other cryptocurrencies, one cannot directly exchange NFTs on various Crypto Exchanges. Therefore, a dedicated platform is required for trading. The ICCE Trading Platform is a decentralised platform that can store and trade NFTs. CCNFTs are offered at a fixed price or sold through an auction.

So how does ICCE Exchange work? First, CCNFTs are implemented using smart contracts. Each token contains unique information (metadata) recorded in its smart contract, and a blockchain provides immutability and security. Then, alongside the smart contracts, a token protocol is created. Finally, this protocol is integrated with the marketplace system.

As the ICCE Exchange Platform will be initially rolled out in Australia, the platform must comply with all financial regulations imposed by the Australian Securities and Investment Commission. ICCE is currently establishing an Australian Retail Financial License to target retail investors and traders to meet these requirements.

THE PROCESS

Similar to most NFT Marketplace platforms, ICCE shares a standard flow. Firstly, a user or Producer needs to sign up and install a digital wallet to store CCNFTs and cryptos. The Producer can then create their CCNFTs by submitting their ACCUs, where they are minted and transformed into CCNFTs and then placed on the ICCE Exchange. The Producer can also select which payment tokens they will accept, set a secondary sales or royalty fee, and confirm if their item is for bidding or at a fixed price. Below is a step-by-step process.



Figure 8.2 Typical process of trading CCNFTs on ICCE Trading platform

REVENUE STREAMS

The NFT marketplace is a multimillion-dollar revenue structure. However, early adopters have begun streamlining their revenue stream using its capacity across various industries. In addition, the current NFT marketplace is powered by the Ethereum blockchain providing multiple features for a range of tokenised offerings. So how does this business model make money? Below we look at the potential income of a CCNFT Trading platform.

- **Application Submission**
Fee Each Producer will be required to submit their proposal to be reviewed. A fee may be charged if the documentation is not compliant and if the Producer requires assistance. This fee is variable.
- **Initial setup fees**
This fee is imposed on Producers planning to list their ACCUs on the ICCE CCTNFT Trading platform. Every CCNFT selling on the platform is backed up with a predefined protocol, and Producers pay a fee to move their proposal.
- **Minting fees**
Minting charges are levied for registering the CCNFT on the blockchain network.
- **Transaction processing charges**
Peer-to-peer transactions are executed while buying and selling. The accepted currency is PHAE coins and AUDT. A transaction fee for each payment processed will be 2.5% of the sale price to the Seller and Buyer.
- **Private sale**
A Producer can finalise their sale as private and enter the details of the wallet address eligible to purchase the private CCNFTs. Buyers or investors can view the details of the CCNFT but cannot buy it as the purchasing rights are restricted only to a specific buyer or investor.

Since it takes some time for a CCNFT seller to find a prospective buyer, ASX charges a fee for conducting a private sale of these CCNFTs. The applicable fee is 0.5% of the total transaction.

EXPENSES INCURRED

These are expenses for operating the ICCE Trading platform, which is covered in the fees charged above.

- *Maintenance of the Trading Platform*
To manage and handle millions of CCNFT trades and transactions, the ICCE Trading platform has to spend gas fees on consuming computing energy. However, these fees are given that Phaeton Blockchain utilises a lot less energy when compared to Ethereum.
- *Auditing the smart contract*
The self-executing program is the backbone of every blockchain network and functions based on predefined terms and conditions. Therefore, the ICCE Trading platform must regularly audit the smart contracts to keep them in good working order and prevent business operations due to technical bugs and vulnerabilities.
- *Safeguarding the unique NFT*
Each CCNFT is distinct, and the ICCE Trading platform has to comply with different laws related to selling investments products compliant with ASIC rules and regulations. There will be ongoing compliance fees that must be covered.

9. THE AUSTRALIAN CARBON MARKET

The October 2019 market update (the latest update from the Energy Regulator) provides a view of supply and demand for ACCUs. In addition, it explores the key factors that may influence the market soon.

Market Highlights

- Supply is growing with 13.7 million ACCUs issued in 2018-19, up 12% from the 12.2 million in 2017-18. Contributing to this increase, 64 Emissions Reduction Fund (ERF) projects entered the project crediting phase in 2018-19, up 28% from the 50 projects in 2017-18.
- At the ninth ERF auction, 59,000 tonnes of carbon abatement were purchased through three carbon abatement contracts at an average price of \$14.17 per ACCU, up from \$13.87 at the previous auction.
- In the first quarter of 2019-20, 3.6 million ACCUs were issued.
- There is currently \$237 million remaining in the ERF.

- Funds from the \$2 billion Climate Solutions Fund (CSF) will be available for forward contracting in the coming months.
- Voluntary and state and territory government demand in 2018-19 was over 380,000 ACCUs, an eight per cent increase from 2017-18.
- ACCU spot prices are around \$16.10 per ACCU.
- There are currently 5.4 million ACCUs in ANREU.

ACCU Market Status

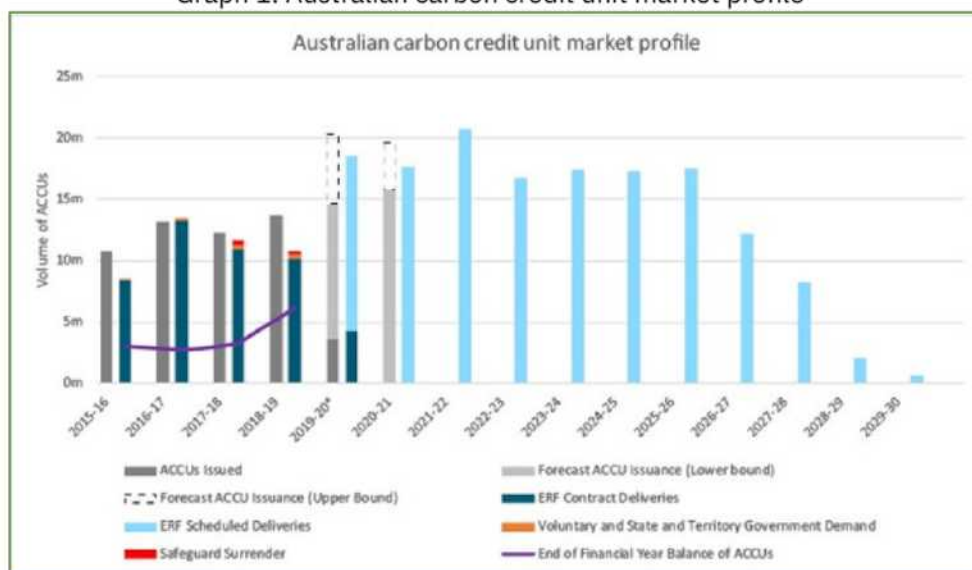
More than 68 million ACCUs have been issued since 2011, with 47 million of these delivered under ERF contracts, 14.5 million surrendered under the former Carbon Pricing Mechanism, 0.5 million offered under the Safeguard Mechanism² (for 2016-17 and 2017-18 compliance years), and 1.0 million ACCUs cancelled for the voluntary market and state government policy commitments. As shown in Table 1 below, this leaves a balance of 5.4 million ACCUs in ANREU.

Table 1: ACCU market balance as of 30 September 2019

ACCUs issued	68,812,557
Emission Reduction Fund contract deliveries	47,261,346
Carbon pricing mechanism surrender [^]	14,458,807
Voluntary and state/territory Government	1,081,422
Safeguard mechanism surrender [*]	531,099
ACCU relinquishments ⁺	113,617
Balance [#]	5,366,266

[^]The carbon pricing mechanism was repealed, with effect from 1 July 2014.

Graph 1: Australian carbon credit unit market profile

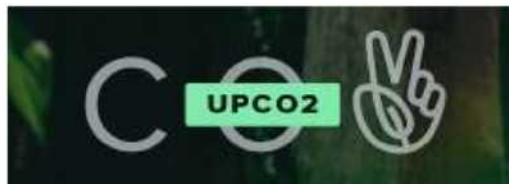


Source: Clean Energy Regulator.

10. COMPETITOR ANALYSIS

There are no carbon credit trading platforms similar to ICCE, where carbon credits are NFTs. Similarly, there are only a few platforms using blockchain cryptocurrency as a form of trading. Below are two platforms where carbon credits can be traded.

Universal Carbon [UPCO2]



UPCO2 (<https://universalcarbon.com/>) is the World's first tradable carbon token on a public blockchain. Created by the Universal Protocol Alliance and leading voluntary carbon credit managers, UPCO2 is a stable token backed by underlying certified REDD+ carbon credits on a leading registry.

When buying and selling UPCO2, transactions will be validated, secured, and certified by the UP Alliance, including blockchain companies such as Ledger, Uphold, InfiniGold, Bittrex Global, and CertiK.

- These carbon credit tokens can be bought and held as an investment, as well as burnt to offset a carbon footprint.
- Each UPCO2 token is backed 1:1 by a Voluntary Carbon Unit on a registry, which represents a one-year tonne of carbon emissions averted.
- An ERC20 token on the Ethereum Network, UPCO2, is fractional, which means one can invest as little, or as much, as one can afford to offset their carbon footprint or hold as a speculative investment.
- UPCO2 is transparently minted and substantiated on a public blockchain. One can see the assets and liabilities underpinning the token in real-time here.

UPCO2 stable tokens are voluntary carbon credits derived mainly from rainforests. However, it does not offer a service where other carbon producers can monetise their carbon credits, such as landowners.

Carbon Trade Exchange



Carbon Trade Exchange (<https://ctxglobal.com/>) is the World's first electronic Exchange for trading voluntary carbon credits (or offsets). Carbon Trade Exchange simplifies buying and Selling carbon offsets by providing the only liquid, transparent, secure marketplace in the voluntary carbon market. Their features and benefits include:

- Over ten years of trading
- Operates globally – 24/7/365 from any internet-connected device
- Guaranteed delivery of credits and proceeds of sale
- Continuous trading contract – means ZERO paperwork
- Access to buy or sell credits from all significant credit standards and methodologies
- Zero counterparty risk for buyers AND sellers
- Wholesale trading prices and transparent commission rates

Carbon Trade Exchange is a digital platform and does not use blockchain technology to promote and trade carbon credits.

11. MARKET STRATEGY

Like any new business, a new CCNFT Trading platform requires significant time, energy and a cleverly marketing and branding strategy.

Focus on the target audience.

The power of your brand relies on the ability to focus. That is why defining the target market will help to strengthen a brand's effectiveness. There are two target markets in setting up the ICCE Trading platform, namely and (a) Producers and (b) Investors and (c) Emitters.

- **Producers**

The first step is promoting the platform to carbon credit producers and sell them the benefit of tokenising their AACUs through CCTNFTs. As the platform will initially be in Australia selling tokenised carbon credits backed by ACCUs, a campaign should target producers in Australia.

- **Investors**

Under our market research tells us that most Australians have yet to adopt blockchain technology. Therefore, there should be a significant marketing budget set aside to promote and sell CCNFTs. These accounts should also be affordable for Millennials to enter the market as they are generation focused on climate change.

- **Emitters**

By Australian law, Emitters emitting carbon emissions must purchase AACUs to offset the pollution they create. Therefore, marketing ICCE as the prime area and, to a greater extent, the only area to buy carbon credits will require a strong marketing campaign.

Build a community.

For most crypto projects, building a community is vital. An ICCE Trading platform selling CCNFTs is no exception. The primary community is the people who will support us, spread the word about ICCE, will invest and use our Trading Platforms. Therefore, we need to create an interest in our marketplace on various community platforms. It is beneficial not only for promotion but also for getting adequate feedback from the community. Community platforms include BitcoinTalk, Reddit, Telegram, Twitter, and more. Often, such a strategy, in addition to a fresh look, can also bring new participants to the community.

Social media marketing for CCTNFT

It is also essential to work on our social networks. It would be ideal for conducting them in such a style that some posts become viral. NFT is not only about people who are well versed in crypto but also for a general audience. Therefore, it would be good to introduce explanatory posts and explain CCNFTs and their benefits. Social media platforms include Facebook, Twitter, Medium, Reddit and LinkedIn.

Public relations for CCNFTs

Of course, more media writes about the ICCE Trading platform. We should aim to get into different publications and outlets, from full articles about our trading platform to mentions, interviews and quotes. In addition to crypto media, we should also work with the general press, depending on the marketing campaign. It is a necessary measure to maintain the reputation and attract additional interest.



Phaeton
Carbon Credit Exchange

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