

# CommodityCoin Whitepaper

The gold standard of stablecoins

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# Current stablecoin landscape

The current landscape of stablecoins is dominated by coins pegged to fiat currencies. However, these coins suffer from several limitations that make them less than ideal for use in a decentralized financial system. The primary limitation is centralization. By pegging to fiat currencies, stablecoins rely on centralized entities such as banks and governments to provide backing and maintain price stability.

In addition, fiat currencies themselves are subject to market volatility and other factors that can result in price fluctuations. This volatility makes them less reliable as a store of value and means of payment. For example, sudden changes in economic policies, geopolitical events, inflation, and interest rates can all have a significant impact on the value of fiat currencies. As a result, traditional stablecoins that rely on these currencies can also be subject to price instability.

Furthermore, the reliance on fiat currencies, which are over 200 years old and centrally controlled, undermines the very principles upon which the blockchain and decentralized finance were founded. Despite the significant progress made in creating a more secure and transparent financial infrastructure, the use of these outdated currencies limits the potential of the blockchain ecosystem to provide a truly decentralized and trustless financial system.

## CommodityCoin Overview

CommodityCoin is a cutting-edge stablecoin that leverages the robust ethereum platform to offer enhanced security and transparency, paving the way for seamless and cost-effective transactions.

What sets CommodityCoin apart is its unique pricing mechanism - it is linked to a basket of publicly traded commodities, with the weights of each commodity in the basket determined by its relative consumption to the others. The objective of this innovative approach is to stabilize purchasing power instead of nominal price, making it an ideal store of value and means of payment.

Moreover, by combining a rebase stabilization mechanism and crypto-asset collateralization, CommodityCoin is able to achieve both price adjustability and asset backing, creating a stablecoin that is resistant to market volatility and able to maintain its value over time.

As a result, CommodityCoin promises to be a game-changer in the world of cryptocurrency, empowering users to save and transact with greater confidence and convenience.

## Stabilizing purchasing power instead of nominal price

The concept of stabilizing value instead of nominal price is based on the idea that what really matters to individuals and businesses when using a currency is its ability to maintain its purchasing power over time. In other words, people care more about being able to buy the same amount of goods and services with a unit of currency than they do about the nominal price of the currency itself.

Traditional stablecoins often focus on maintaining a fixed nominal price, such as pegging the stablecoin to a specific fiat currency at a 1:1 ratio. However, this approach does not necessarily ensure that the stablecoin can maintain its purchasing power over time, as the value of the pegged currency may fluctuate based on various factors such as inflation, interest rates, and geopolitical events.

CommodityCoin's innovative approach to stabilizing purchasing power is to link the value of the stablecoin to a basket of commodities with the weight of each commodity in the basket determined by their relative consumption, which means that the stablecoin's value is tied to the real-world demand for these commodities.

By stabilizing purchasing power, CommodityCoin aims to provide a more reliable, global and steady currency for transactions, which can help businesses and individuals to plan and budget with greater confidence. This approach also aligns with the principles of decentralized finance, which seeks to provide a more transparent and trustless financial system.

### Basket composition (TBC)

Component	Weight	Ticker Symbol
Crude oil	15.00%	CL
Natural gas	10.00%	NG
Copper	5.00%	HG
Gold	8.00%	GC
Corn	7.00%	C
Wheat	7.00%	W
Sugar	4.00%	SB
Coffee	3.00%	KC
Cocoa	3.00%	CC
Lean hogs	2.50%	LH
Live cattle	2.50%	LC
Aluminum	2.50%	AL
Steel	2.50%	HRC
Cotton	2.50%	CT
Soybeans	2.50%	S
Platinum	2.00%	PL
Palladium	2.00%	PA

## Stabilization mechanism

CommodityCoin is a type of cryptocurrency that is pegged to the value of a commodity basket. As the value of the underlying commodities changes, the value of the CommodityCoin should also change to maintain the peg. However, it can be difficult to maintain this peg in practice, as market forces can cause the value of the commodity to fluctuate rapidly.

One way to address this issue is to implement a stabilization mechanism using a rebase mechanism. A rebase mechanism adjusts the supply of a cryptocurrency based on its price, with the goal of maintaining a stable value. In the case of CommodityCoin, the supply of the cryptocurrency would be adjusted based on the price of the underlying commodity basket.

Here's how the stabilization mechanism using a rebase mechanism could work for CommodityCoin:

1. Determine the target price: to provide reliable, tamper-proof, and secure data to smart contracts, enabling them to interact with and make informed decisions based on real-world information. CommodityCoin uses a Chainlink decentralized oracle network that acts as a bridge between smart contracts on blockchain platforms and real-world data, APIs, and traditional systems. A smart contract then aggregates the price of each commodity according to their weight and the value of the collateralization crypto assets.
2. Calculate the rebase ratio: The rebase ratio is used to adjust the supply of CommodityCoin based on its price. If the price of CommodityCoin is above the target price, the rebase ratio will be less than 1, which will decrease the supply of CommodityCoin. If the price of CommodityCoin is below the target price, the rebase ratio will be greater than 1, which will increase the supply of CommodityCoin. The rebase ratio is calculated using the following formula:  $\text{Rebase Ratio} = \text{Target Price} / \text{Current Price}$
3. Adjust the supply of CommodityCoin: Once the rebase ratio has been calculated, the supply of CommodityCoin can be adjusted accordingly. If the rebase ratio is less than 1, the supply of CommodityCoin will be decreased by the amount of the rebase ratio. If the rebase ratio is greater than 1, the supply of CommodityCoin will be increased by the amount of the rebase ratio.
4. Repeat the process: The stabilization mechanism using a rebase mechanism should be repeated periodically, such as once per day or once per week, to ensure that the peg remains stable over time.

Overall, the stabilization mechanism using a rebase mechanism can be an effective way to maintain the peg between CommodityCoin and the underlying commodity. By adjusting the supply of CommodityCoin based on its price, the rebase mechanism can help ensure that the value of CommodityCoin remains stable even as the price of the commodity fluctuates.

# Backing

CommodityCoin is a groundbreaking stablecoin designed to provide price stability and secure value preservation, utilizing a unique hybrid approach that combines Collateralized Debt Positions (CDPs) and seigniorage shares. This section of the whitepaper outlines the underlying backing mechanism of CommodityCoin, highlighting the role of CDPs and seigniorage shares in maintaining the stability and integrity of the stablecoin.

## Collateralized Debt Positions (CDPs)

One of the key features of CommodityCoin is its collateralization mechanism, which utilizes crypto assets to back the value of the token. This mechanism enables CommodityCoin to maintain a stable value relative to the commodity it represents.

To achieve this, CommodityCoin uses a smart contract-based system that locks up a certain amount of crypto assets as collateral for the issuance of new tokens. The amount of collateral required is determined by a collateralization ratio, which is set by the CommodityCoin governance system.

The use of crypto assets as collateral provides several advantages for CommodityCoin. Firstly, it enables the token to maintain a stable value relative to the commodity it represents, as the value of the collateral is directly tied to the value of the token. Secondly, it reduces the risk of counterparty default, as the collateral can be used to cover any losses incurred in the event of default.

Another advantage of using crypto assets as collateral is that it enables CommodityCoin to be issued and traded on decentralized exchanges (DEXs). DEXs enable users to trade tokens without the need for a centralized exchange, which can be subject to hacking or other security issues. This makes CommodityCoin more accessible and secure for users, as it can be traded on DEXs without the need for an intermediary.

## Seigniorage Shares

In addition to the CDP mechanism, CommodityCoin seigniorage shares. Seigniorage shares represent ownership or claim on the revenue generated by the stablecoin protocol. Holders of seigniorage shares are entitled to a portion of the seigniorage revenue, which is generated through the expansion or contraction of the CommodityCoin supply based on market demand.

The issuance of seigniorage shares creates an incentive for participants to actively contribute to the stability and success of CommodityCoin. Users can acquire seigniorage shares through various means, such as providing liquidity to the stablecoin protocol, participating in governance activities, or holding a certain amount of CommodityCoin.

## Hybrid Approach

CommodityCoin's hybrid approach combines the strength of CDPs and seigniorage shares, creating a symbiotic relationship that enhances the stability and value proposition of the stablecoin. The collateralized assets within the CDPs provide a robust backing that anchors the value of CommodityCoin, ensuring it remains resilient against market fluctuations.

The seigniorage shares, on the other hand, distribute the benefits of the stablecoin's growth and success to the holders, aligning their interests with the long-term stability and adoption of CommodityCoin. By incorporating seigniorage shares, CommodityCoin aims to incentivize participation, reward early adopters, and foster a community-driven ecosystem around the stablecoin.

## Liquidity pool

One of the challenges with stablecoins is maintaining their price stability and ensuring that users are able to convert them to other assets at a fair price. CommodityCoin addresses this challenge by using a liquidity pool to facilitate conversions between the stablecoin and other cryptocurrencies.

A liquidity pool is a pool of funds provided by users that is used to facilitate trades on a decentralized exchange. In the case of CommodityCoin, the liquidity pool is used to enable users to convert CommodityCoin to other cryptocurrencies, such as Bitcoin or Ethereum, at a fair price.

The liquidity pool is maintained by a smart contract on the Ethereum blockchain, which automatically adjusts the price of CommodityCoin based on supply and demand. When users want to convert CommodityCoin to another cryptocurrency, they can do so by adding liquidity to the pool. The smart contract then calculates the fair price based on the current supply and demand, and users are able to make the conversion at that price.

The use of a liquidity pool helps to maintain the stability of CommodityCoin's price, as the smart contract ensures that the price is always fair based on market conditions. This also helps to ensure that users are able to convert their CommodityCoin to other cryptocurrencies without facing significant price fluctuations.

In addition, the liquidity pool helps to ensure that CommodityCoin has sufficient liquidity to support a wide range of transactions. By providing a pool of funds that can be used to facilitate trades, the liquidity pool ensures that users are always able to buy or sell CommodityCoin when they need to.

Overall, the use of a liquidity pool is an important component of CommodityCoin's design, as it helps to maintain the stability and liquidity of the stablecoin, enabling it to function effectively as a means of payment and a store of value in a decentralized financial system.

## Governance

TBD

# Technical Specifications (TBD)

## Token contract:

This contract will define the CommodityCoin token, including its name, symbol, total supply, and decimals. It will also implement the ERC-20 token standard to allow for transfers and other token-related functions.

## Stabilization contract:

This contract will manage CommodityCoin token's price stability mechanism. The stabilization mechanism will involve adjusting the token's supply based on market demand. The stabilization contract will take in the price data from the oracle contract and calculate the appropriate supply adjustment required to keep the CommodityCoin token's price pegged to the basket of commodities. The stabilization mechanism will be designed to adjust the token's supply in a way that maintains the price stability without creating large price fluctuations. The contract will be responsible for executing the supply adjustments and updating the token's supply.

## Oracle contract:

TBD

## Governance contract:

This contract will manage the decision-making process for the CommodityCoin protocol, including voting on proposed changes or upgrades to the protocol. The governance contract will allow token holders to participate in the decision-making process by submitting proposals and voting on proposals submitted by other token holders.

## Collateral contracts:

TBD

## Liquidity pool contracts:

TBD



# Roadmap to the Introduction of CommodityCoin

## 1) Concept and Whitepaper:

Develop a clear and concise whitepaper that outlines the vision, technical specifications, and an economic model for CommodityCoin. The whitepaper should be peer-reviewed and publicly available.

## 2) Team Formation and Funding:

Assemble a team with the necessary technical, economic, and business expertise to develop and launch CommodityCoin. Secure funding through private investment, strategic partnerships, or a public token sale.

## 3) Development and Testing:

Build the CommodityCoin platform and perform extensive testing to ensure security, scalability, and reliability. Develop a user-friendly interface and wallet for users to easily access and use CommodityCoin.

## 4) Selection of Commodity Basket:

Determine the optimal mix of commodities that will make up the basket, based on consumption levels and trends. Develop a transparent methodology for selecting the commodities and determining the weights.

## 5) Integration and Adoption:

Partner with exchanges, wallets, and other financial platforms to integrate CommodityCoin into existing systems. Develop marketing and educational campaigns to increase awareness and adoption of CommodityCoin among potential users.

## 6) Launch and Initial Adoption:

Launch CommodityCoin and focus on building initial adoption among early adopters and early users. Use feedback from initial users to refine and improve the platform and user experience.

## 7) Growth and Expansion:

As adoption grows, expand the reach and functionality of CommodityCoin. Develop partnerships with merchants and service providers to enable payments and transactions using CommodityCoin. Explore opportunities for further integration with other blockchain-based products and services.

## 8) Continuous Improvement:

Continue to monitor and adjust the commodity basket weights and methodology over time to ensure that CommodityCoin remains stable and reliable. Use feedback from users and the broader community to continuously improve the platform and user experience.

By following this roadmap, CommodityCoin can overcome the challenges it faces and become a successful stablecoin that offers a more stable and reliable store of value for users.

# Challenges to the Introduction of CommodityCoin

## Market Acceptance

One of the biggest challenges for CommodityCoin will be gaining market acceptance. The stablecoin market is currently dominated by coins that are pegged to fiat currencies, and it may take time for users to understand and trust the concept of a stablecoin that is pegged to a basket of commodities. Moreover, the value of the basket of commodities that CommodityCoin is pegged to may fluctuate significantly, which could lead to price volatility in the stablecoin. This could lead to user distrust and make it difficult for CC to gain widespread adoption.

## Availability of Data

In order to accurately calculate the value of the basket of commodities, CommodityCoin will require access to real-time data on commodity prices and consumption levels. Ensuring that this data is reliable and accurate could be a challenge.

## Scalability

As with any blockchain-based product, scalability is a concern. CommodityCoin will need to ensure that it can handle a large volume of transactions and operate efficiently even as the number of users and transactions increases.

## Adoption and Integration

CommodityCoin will need to be adopted and integrated into existing financial systems and platforms to be successful. This could require significant investment and partnerships with other players in the industry.

## Determining the Basket Weights or Mix

Another challenge that CommodityCoin could face is determining the appropriate weights or mix of commodities that make up the basket. The weights of each commodity will have a direct impact on the value of the stablecoin, and finding the optimal mix may require extensive research and analysis.

Additionally, consumption levels and trends may change over time, which could require periodic adjustments to the basket weights to ensure that CommodityCoin remains correlated with the cost of living. This could be a difficult task that requires ongoing monitoring and adjustments to the mix, potentially creating uncertainty for users.

Furthermore, the process of determining the basket mix may also face challenges related to transparency and potential conflicts of interest. It will be important for CommodityCoin to have a clear and transparent methodology for selecting the commodities and determining the weights to ensure trust and confidence in the stablecoin.

Overall, while determining the appropriate basket mix is critical to the success of CommodityCoin, it presents a significant challenge that will require ongoing attention and potentially difficult trade-offs to ensure that the stablecoin remains stable and reliable over time.