Zencoin

Zencoin: A fair and universal cryptocurrency

(Litepaper v1.0, Nov 30, 2023)

1. Overview

What is the vision of Zencoin?

Zencoin is committed to creating a cryptocurrency with a fair mining mechanism by integrating cutting-edge blockchain technology and meticulous game theory strategies. Our goal is to make Zencoin a symbolic cryptocurrency, similar to Bitcoin, Ethereum, and Dogecoin. From the beginning, Zencoin was designed with ease of use and accessibility in mind, ensuring that every user can seamlessly join our ecosystem in a fair, straightforward, and fully transparent environment.

What problem does Zencoin solve?

In the current world of cryptocurrency, mainstream cryptocurrencies such as BTC and ETH, although widely supported by crypto enthusiasts globally, are expensive and limited in quantity, which restricts many newcomers to the crypto space. Meanwhile, meme coins like DOGE, SHIB, and PEPE, despite their popularity, often come with significant price volatility and a lack of inherent value.

The inception of Zencoin was precisely to address these challenges. By implementing a low-threshold and fair mining mechanism, Zencoin ensures that even cryptocurrency beginners can participate easily. Moreover, with the optimization of its minting mechanism, Zencoin significantly reduces gas fees, and all the saved funds are 100% returned to the Zencoin community as rewards. This approach not only cuts unnecessary expenses but also creates real value within the Zencoin community and strengthens the consensus among its members. This is an important step that sets Zencoin apart from other cryptocurrencies, bringing tangible benefits to the community and enhancing the value of the entire ecosystem.

2. Token Economics

Zencoin Tokens: Features and Innovations

Key Features

1. **Zero Initial Supply and Community-Driven**: Zencoin launches with zero initial supply and is entirely community-mined. The total supply increases gradually with mining activities, while mining difficulty rises over time, potentially leading to a long-term increase in Zencoin's price.

2. **Combination of Game Theory and Blockchain Technology**: We have developed a fair mining mechanism using game theory and advanced blockchain technology. This ensures that everyone has the chance to profit, regardless of when they join.

3. **Flexibility in Minting Term and Fee**: At the core of Zencoin is the flexibility for users to choose their minting term, while the minting fee is affected by fluctuations in Ethereum network's Gas prices.

Innovations and Uses

1. **Cost-Reducing Bulk Minting Mechanism**: Zencoin greatly reduces unnecessary gas fees with its unique bulk minting mechanism, enhancing user experience.

2. **Community Reinvestment of Minting Fees**: 100% of the minting fees generated are reinvested into the Zencoin community, and our team does not charge any minting fees.

3. **Earning ETH During Minting Period**: Users can earn ETH from the minting rewards pool while in the minting period.

4. **Earning ETH by Staking Zencoin**: Users can earn ETH from the staking rewards pool by staking Zencoin.

Zencoin Token Mining Mechanism: Transparency and Fairness

Zencoin adopts a mining mechanism based on game theory, ensuring transparency and fairness through a series of carefully designed algorithms. This mechanism is deployed as a smart contract on the blockchain network, ensuring that mining difficulty and quantity are entirely controlled by an immutable algorithm.

Mining Quantity Calculation Mining Quantity = log2(Rank Difference) × Term × Reward Amplifier × Early Adopter Amplifier Value

The meanings of the terms in the formula are as follows:

- Rank Difference = Global Rank - User's Rank
- Reward Amplifier = Maximum[3000 - (Current Time - Genesis Time) / 86400, 1]
- Early Adopter Amplifier = Maximum[1.1 - 0.001 × (Global Rank / 10000), 1]

Terminology Explanation

Rank

- Rank is the ranking number for minting Zencoin. Each Rank has a unique number, and with every Rank minted, the total number of the global Rank increases by one. The difference between the global Rank and the user's Rank determines the amount of Zencoins obtained.

Term

- The longer the term, the more Zencoins are acquired for the same minting cost, with a higher reward weight. The minimum term value is 1, and the maximum term value increases with the global rRank, as calculated below:
  - If Global Rank ≤ 5000, then Maximum Term = 100
  - If Global Rank > 5000, then Maximum Term = 100 + log2(Rank Difference) × 15

Reward Amplifier

- This is a constant related to the genesis time, decreasing daily after the deployment of the contract, affecting the quantity of Zencoins claimed. The initial value is 3000, decreasing by 1 each day, to a minimum value of 1.

Genesis Time

- The moment when the Zencoin smart contract is deployed on the Ethereum blockchain.

Early Adopter Amplifier Value

- Provides an additional rate of rewards for early participants in the Zencoin community. The initial value of the Early Adopter Amplifier Value is 1.1, decreasing by 0.001 for every increase of 10,000 in global Rank, to a minimum value of 1.

Zencoin Minting Fee and Reward Mechanism

Fee

- **Calculation of Fee:** The fee determines the cost of minting a Rank. This fee varies with the fluctuation of gwei on the chain (i.e., the transaction fee rate of the Ethereum network). The specific calculation formula is: $Fee = 0.002 \times (1 + gwei/200)$. When gwei is low, the cost of participating in minting is relatively low.

Reward Mechanism

- **Minting Fee Reinvestment**: Minting fees are the main source of revenue for the Zencoin community, and these revenues are 100% reinvested back into the community. Of this, 80% is allocated to the minting reward pool, and 20% to the staking reward pool.

Minting Rewards

- **Reward Calculation**: The minting rewards pool comes from 80% of Zencoin's minting fee revenue. Rewards are given to users during the minting period. The reward weight is calculated based on the minting fee invested during minting, with greater investment leading to higher weight.

- **Distribution of Rewards Pool**: Minting Rewards Pool = Fee Revenue × 80%, Total Daily Minting Rewards = Remaining balance of the Minting Rewards Pool × 3 / Maximum Term.

- **Individual Rewards**: Individual Daily Minting Rewards = (Individual's Investment in Minting / Total Network Investment in Minting) × Total Daily Minting Rewards.

- **Minting Reward Withdrawal Window and Penalty Mechanism:** After the minting period ends, users must manually withdraw their rewards within 24 hours. During this 24-hour withdrawal window, there is no penalty for withdrawing. If the withdrawal occurs after 24 hours, a penalty rate of an additional 20% per day overdue will be applied, up to a maximum of 100%.

Staking Rewards

- **Source of Rewards**: The staking rewards pool comes from 20% of Zencoin's minting fee revenue, rewarding users who stake Zencoin. Rewards are calculated based on the amount of Zencoin staked, with greater amounts leading to higher reward weight.

- **Distribution of Rewards Pool:** Staking Rewards Pool = Fee Revenue × 20%, Total Daily Staking Rewards = Remaining balance of the Staking Rewards Pool × 3 / Maximum Term.

- **Individual Rewards**: Individual Daily Staking Rewards = (Individual's Staking Amount / Total Network Staking Amount) × Total Daily Staking Rewards.

Zencoin Withdrawal Window and Penalty Mechanism

Withdrawal Window

- **Withdrawal Time**: After the minting term expires, users need to manually withdraw their Zencoins within a 24-hour window. There is no penalty for withdrawing Zencoins during this 24-hour withdrawal window.

Penalty Mechanism

- **Late Withdrawal Penalty**: If a user withdraws Zencoin after the 24-hour window, a penalty proportional to the number of days overdue will be applied. The amount of Zencoin that can be withdrawn decreases daily after the deadline.
- **Penalty Calculation Table**:

Days Late	Penalty (%)
0	0
1	1
2	3
3	8
4	17
5	35
6	72
7	99

3. FAQs

1. **How does Zencoin save on gas fees?**

   - Zencoin implements a batch minting mechanism to save on gas fees. Performing transactions on the Ethereum network, like token minting, usually requires paying gas fees, which vary with network congestion. Zencoin's batch minting mechanism allows multiple minting requests to be processed in a single transaction, thereby reducing the number of transactions and corresponding gas fees required for minting each Rank.

2. **Why is there a fee for minting Ranks?**

   - **Community Profit Sharing**: The minting fees paid are fully reinvested back into the Zencoin community, with 80% used for minting rewards and 20% for staking rewards. This reinvestment mechanism ensures that community members directly benefit from their participation while encouraging ongoing involvement and support for the Zencoin community.

- **Market Game Incentives**: The variation in minting fees is linked to Ethereum network's Gas prices, encouraging users to make minting decisions based on market conditions and Gas price fluctuations, adding strategy and dynamism to the participation process.

3. How are minting fees reinvested into the Zencoin community?

- 100% of the minting fees paid by community members are reinvested into the Zencoin community. Of this, 80% of the fees go into the minting reward pool, and 20% into the staking reward pool. This allocation mechanism ensures that community members directly benefit from their activities while encouraging ongoing participation and support for the Zencoin community.

4. How to increase the future claimable amount of Zencoin?

- To increase the future claimable amount of Zencoin, focus should be on the choice of term. According to Zencoin's minting formula, although the Rank difference is a factor, its logarithmic calculation means the increase in value is not significant when the Rank difference is very large. In contrast, the term directly impacts the final amount of tokens that can be withdrawn, as it is multiplied directly with other factors. Therefore, choosing a longer term is more effective in increasing the future claimable amount of Zencoin. Of course, strategic timing and market strategies are still key to ensure maximum gains.

5. What are the key factors in Zencoin's game theory?

- The core of the game is to enhance participation in Zencoin and the cohesion of the community. Both early and late joiners have the opportunity to benefit in the game, depending on their patience and market timing. Key factors include:

  - **Fee**: This is the cost of minting a Rank, varying with the Ethereum network's Gas prices, adding a market gaming element to the minting process.

  - **Term**: Users can choose the length of the term. The longer the term, the more tokens and reward is obtained at the same minting fee.

  - **Minting Rewards**: Participants can earn ETH rewards during the minting period, which come from 80% of the minting fee revenue, and the reward weight depends on the minting fee investment.

  - **Staking Rewards**: ETH rewards can be obtained by staking Zencoin, which come from 20% of the minting fee revenue, providing an additional source of income for community members.

  - **Spot Price**: The market value of Zencoin is also a crucial factor in the game, as it directly affects the potential returns for users participating in minting and staking.