

# Canxium Blockchain

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**Abstract.** Canxium is a groundbreaking blockchain platform that introduces a unique economic model that revolves around supply and demand dynamics. Unlike traditional blockchains with fixed supply or inflationary or deflationary mechanisms, Canxium adopts a demand-driven approach, where the total coin supply is determined by market demand. The demand-driven blockchain concept introduces a dynamic and responsive economic system. Unlike traditional models that rely on predetermined supply plans, Canxium allows the market forces of supply and demand to dictate the coin's availability and value. This approach brought a more flexible and adaptable blockchain ecosystem that aligns with real-time market conditions. Canxium also revolutionized the blockchain industry with its unique approach to mining and commitment to creating a more sustainable and decentralized future. A key feature distinguishing Canxium from others is its innovative concept of offline mining. Canxium's offline mining is a new concept never seen in crypto.

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# 1. Introduction

Cryptocurrencies represent a modern financial revolution that emerged from the need for greater financial autonomy and decentralization. These digital assets have fascinated both individuals and institutions. However, cryptocurrencies have been marked by challenges and limitations that have prevented their use as mainstream currency. This is where Canxium emerges as an innovative solution. With the exponential growth of cryptocurrencies, issues such as supply issues, extreme price volatility, scalability, and mining centralization concerns have come to the forefront. These problems create a demand for a new kind of blockchain solution that can be used for real-life applications. Canxium understood these issues and proposed a comprehensive blockchain solution. Canxium redefines the coin supply and reliability concept within the cryptocurrency space.

This whitepaper serves as a detailed guide to the Canxium project. It delves into its core principles, unique mechanisms, and practical applications. It explores the Canxium objectives, by examining the existing challenges faced by the blockchain industry. Later on in this whitepaper, we will delve deep into the various components of Canxium's blockchain, technology, and tokenomics.

We will examine how Canxium's demand-driven supply control mechanism tackles issues related to inflation or deflation. Also how its unique offline mining process increases accessibility to blockchain. Additionally, we will explore Canxium's practical use cases and future roadmap. By the end of this whitepaper, readers will gain a comprehensive understanding of Canxium's approach and its blockchain potential.

## 2. Problem Statement

Cryptocurrencies have made significant progress since the creation of Bitcoin over a decade ago. Despite their huge potential, cryptocurrencies still face several critical challenges that prevent their mainstream adoption and use for everyday transactions. In this section, we outline the key problems that Canxium aims to address, shedding light on the problems that have limited the use of existing cryptocurrencies.

- **Inflexible Supply Model:** Traditional cryptocurrencies follow either an inflation supply model where new coins are continuously minted or a deflation model where the total coin supply is limited. Both of these models have their own advantages, but besides that, there are many disadvantages that cause crises of excess or shortage in the short and medium term and can result in price volatility. These models are only suitable for hoarding and speculation for the purpose of making a profit. It prevents the organic growth of coin value based on real-world demand and utility. To be widely applicable in daily life, they must obey the law of supply and demand and have to have higher reliability.
- **Fluctuating Mining Costs:** Because of the inflexible supply model, a significant problem raised in cryptocurrencies is the fluctuating mining costs. Miners often face significant uncertainties and risks due to fluctuating mining costs. The sudden increases or decreases in mining difficulty combined with fixed rewards lead to this issue, putting smaller miners at a disadvantage compared to large miners with more resources. These fluctuations and uncertainties can prevent potential miners and disrupt the decentralization of

blockchain networks. This can lead to reduced profitability for miners and fluctuating coin prices in the market. High volatility is the main reason for low reliability.

- **Price Volatility:** One of the main reasons behind the prevention of cryptocurrencies for mainstream adoption is their volatility. The volatility of many cryptocurrencies reduces their potential as stable stores of value and mediums of exchange. Rapid and unpredictable price fluctuations have prevented users and businesses from adopting cryptocurrencies for everyday transactions. Traditional mechanisms are going against the law of the market, the law of supply and demand therefore cannot create high stability and high reliability. The inflexible supply model is one of the main reasons behind this volatility.
- **Accessibility:** Only a small portion of the world is using cryptocurrency and blockchain technology today. This is because of the complexity of cryptocurrencies and mining available for a limited area of the world. High volatility in mining costs is also one of the reasons preventing capital investment in mining infrastructure. For mainstream adoption of cryptocurrencies, mining, and crypto should be made accessible all over the world, and the cost to mine one coin has to be more stable.
- **Centralization of Mining Power:** PoW-based blockchains often suffer from the centralization of mining power, where a few large mining pools dominate the network's hash rate, potentially leading to a lack of decentralization.

In the subsequent sections of this whitepaper, we will explore how Canxium tackles these obstacles. With pioneering solutions that prioritize scalability,

sustainability, stability, and reliability, Canxium plans to establish itself as a dependable and practical option for all users.

### **3. Objectives**

Canxium is based on the vision of increasing the accessibility of cryptocurrency and creating a decentralized reliable coin that can also be adopted as a mainstream currency. For this purpose, Canxium is solving some of the main reasons that are preventing cryptocurrencies from reliability, decentralization, and mainstream adoption. Canxium is driven by a set of clear and ambitious objectives that guide its development and adoption. The following objectives serve as a roadmap for creating a platform that not only addresses existing challenges but also paves the way for a more inclusive and efficient digital economy.

#### **3.1. Suitable Supply Model**

Canxium observed a need for a different approach to supply. A decentralized reliable coin enabling mainstream adoption of cryptocurrencies can't be made possible by using the traditional supply model based on deflation or inflation. Both these models result in a rapid increase or decrease in the value of cryptocurrencies. To address this issue Canxium adopts a different approach for the supply of the coin. The Canxium blockchain employs a dynamic supply control mechanism that ensures both stability and decentralization. Canxium's supply adapts to network conditions, responding to changing demands. This flexibility allows Canxium to act as both a store of value and a medium of exchange,

accommodating various use cases and fits the real-world macroeconomic model.

### **3.2. Stable Mining Costs**

Canxium implements unique mechanisms to stabilize mining costs. It can adjust rewards according to mining difficulty and ensure fixed mining costs for miners in any circumstances, whether there are more or less miners, the mining reward is the same for the same hashrate. Canxium aims to foster a more inclusive and decentralized ecosystem where miners of all sizes can participate without fear of centralization. This solution aligns with Canxium's overarching goal of a decentralized reliable coin.

### **3.3. Stability and Reliability**

Stability is a cornerstone of Canxium's objectives. We aim to create a cryptocurrency that exhibits reduced extreme price movements through an algorithmic stablecoin-like supply control mechanism, making it a reliable medium of exchange and a store of value. Canxium overcomes the issue of price volatility by introducing a unique supply mechanism that ensures stability. By aligning the coin supply with market demand, Our objective is to reduce extreme price fluctuations, thereby giving confidence to users and encouraging broader adoption for both daily transactions and long-term investments. By ensuring the stability of the mining cost and the possibility of unlimited reward increases or decreases, we believe that the price fluctuations will not be too extreme and far exceed the cost of mining. If the difference in price and mining costs is too high, the supply will automatically adjust to reverse the difference but still ensure the mining cost remains unchanged.

### **3.4. Accessibility and Usability**

Canxium's aim is to extend the accessibility and usability of cryptocurrency throughout the world. For this purpose, we designed a practical usable coin by introducing a new concept of Offline Mining, aimed to increase the cryptocurrency and its mining accessibility to a large range of the world. Offline mining will enable 40% of the world's population with no or slow internet connection to mine the coin and make the blockchain technology more approachable and inclusive for a broader audience. Besides that, we also want to separate the chain operating and coin mining processes from each other, thereby clearing the way to create a new consensus: when the demand is too low, there is no need to mine new coins but the network is still up and running normally.

As we delve deeper into the subsequent sections of this whitepaper, we will provide comprehensive insights into how Canxium's architecture, mechanisms, and features align with these objectives, laying the foundation for a more stable, scalable, reliable, and a more accessible blockchain ecosystem.



## **4. Canxium Overview**

Canxium is a layer-one innovative blockchain designed to redefine the concept of stability and reliability in the cryptocurrency landscape. The core of Canxium is its unique demand-driven supply mechanism. To increase the accessibility of crypto and introduce new advancements to mining, Canxium introduces Offline Mining. Canxium aims to address the challenges of price volatility, scalability, accessibility, and reliability. CAU is the native coin of Canxium's blockchain. The following are the key features of Canxium.

### **4.1. Demand-Driven Supply Mechanism**

At the core of Canxium lies its unique mechanism of Demand-Driven Supply Control. By fixing the mining rewards according to the mining difficulty, we have achieved this goal. Unlike traditional cryptocurrencies with fixed or inflationary supplies, Canxium's supply depends on market demand. The market demand is directly reflected in the coin's price, where the price is the profit of the miners, thereby promoting or preventing miners from accessing the network, thus directly affecting the network difficulty. As demand for Canxium increases, the coin supply increases and vice versa. This mechanism safeguards CAU against extreme price fluctuations and fosters stability. It offers users a cryptocurrency that holds its value more reliably.

## **4.2. Stable Mining Cost**

By fixing the mining rewards according to network difficulty, we also achieved this second goal. Canxium addresses the problem of fluctuating mining costs by giving variable rewards to make a secure environment for miners and foster decentralization. The mining rewards are variable based on mining difficulty, the reward increases when more miners join the network and vice versa. So the miner receives the same reward in all situations. Besides that, the source of the mining difficulty comes from hashrate, every mining machine has its own hashrate, and paying reward according to difficulty is paying for each hashrate on average, which results in the cost of creating a coin being constant in terms of the same mining unit.

## **4.3. Offline Mining**

A pioneering concept introduced by Canxium will revolutionize traditional cryptocurrency mining. Unlike traditional mining which relies heavily on a real-time internet connection, offline mining doesn't need any constant internet connection. By allowing users to participate in the mining process without requiring constant connectivity, Canxium excludes the problems like centralized mining pools, competition between them, etc. It also empowers a wider range of individuals to engage in mining and more self-control. Canxium aims to promote decentralization and energy efficiency. This innovative approach not only reduces barriers to entry but also contributes to the sustainability of the supply and the whole ecosystem. Offline mining will increase the accessibility of cryptocurrency around the world.

#### **4.4. Wide Range of Use Cases**

Canxium's stability and reliability enable it to be used for a wide range of use cases within the crypto ecosystem and in real life. From serving as a medium of exchange for everyday transactions to facilitating cross-border payments, e-commerce, decentralized finance (DeFi) applications, and investment assets. Canxium's unique blockchain model facilitates users across various sectors.

#### **4.5. High-Quality Smart Contract**

Canxium's blockchain supports advanced smart contracts and EVM compatibility, enabling the development of decentralized applications that benefit from the network's efficiency and security. Canxium makes sure that only quality contracts are welcome and the fee required to create a smart contract on Canxium is at least 100 CAU, excluding transaction fees. The easy creation of smart contracts is one of the main reasons for an unsustainable ecosystem, full of scams and worthless contracts. However, we also know that this will be a big barrier for projects with great potential but do not have much budget, so we are committed to fully support this cost if the project meets our standards.

## **5. Technical Details**

Canxium's technical architecture is designed to sustain its core principles of stability, accessibility, and sustainability. In this section, we are going to study Canxium's unique features in more detail with a technical explanation in an easy to understand way.

### **5.1. Demand-Driven Supply Control Mechanism**

The Canxium blockchain introduces a unique approach to supply control and aims to solve issues associated with sudden inflation and deflation. Demand-driven supply mechanism reimagines how a cryptocurrency supply is determined. Unlike traditional fixed or predetermined supply, Canxium supply is dynamic and responds directly to market demand. This innovative approach increases the value of Canxium and its utility and adoption, it fosters a more stable ecosystem. Traditional cryptocurrencies often struggle with these challenges that impact price stability and user confidence. Canxium addresses these problems while maintaining a transparent and secure blockchain ecosystem. At the core of this mechanism lies the principle of equilibrium, when demand for Canxium increases so its value rises - which motivates more miners to contribute computational power to the network and results in the generation of more new CAU to enter circulation and adapt to the growth of the market. The same inverse happens when demand decreases, the system adjusts by reducing the creation of new coins. It restrains potential inflation and maintains price stability.

## Mechanism

The unique supply model and reliability are only possible due to Canxium's variable mining rewards. The mining reward of Canxium is not fixed like traditional cryptocurrencies, it is variable according to demand. The mining reward is directly proportional to the mining difficulty, the more the difficulty the more the reward and vice versa. By increasing demand, more miners will join the network resulting in increased total mining difficulty. Increased difficulty results in increased mining reward which will increase the CAU supply. The inverse process happens when demand decreases.

## Variable Mining Reward

The Canxium mining reward is variable. The mining reward starts at 4250 Wei per difficulty, ends at 250 Wei hash in 2 years and remains the same 250 Wei forever. So the mining reward will increase or decrease with mining difficulty.

For Example:

- If the mining difficulty is 0.1 PH, the mining reward will be 0.425 CAU.

*As 0.1 PH = 100,000,000,000,000*

*100,000,000,000,000 \* 4250 = 0.425 CAU.*

- If the mining difficulty is 1 PH, the mining reward will be 4.25 CAU.

*As 1 PH = 1,000,000,000,000,000*

*1,000,000,000,000,000 \* 4250 = 4.25 CAU.*

## **Advantages**

- Decentralized Supply: Canxium supply would not be decided by the team but it would be decided according to demand of the whole network.
- Equilibrium: The CAU generated would be according to market demand. The cost of each mined CAU is stabled for each hardware and power cost.
- Fewer Price Fluctuations: The variability in the mining reward would control the price fluctuations, creating more reliable conditions for the daily medium of exchange.

The decentralized supply control mechanism addresses one of the fundamental challenges faced by cryptocurrencies - extreme price volatility. By attaching the supply to demand, Canxium provides a more reliable store of value and encourages broader adoption for both users and businesses seeking stability within the blockchain ecosystem.

### **5.2. Offline Mining**

Canxium blockchain will start with the PoW consensus and plan to merge to PoS consensus in July, 2024. Blocks are finalized using Ethash algorithm and mining is the only way to create more Canxium coin, even if we switch to PoS consensus, we still keep generating more coins using offline mining. We believe that Canxium coins should not be printed out of nowhere and the reason we should not use the PoW in block mining is to protect our environment, PoW mining is necessary but should not be the only way to operate the chain. The chain should be operated using an

algorithm that uses less energy: Validators create and validate blocks in a PoS network, miners mine and broadcast the mining transaction to validators in order to create new Canxium coins. Let's dive into more detail about offline mining or transaction mining.

## **Introduction**

Offline mining stands as a cornerstone of Canxium's innovation. Offline mining allows miners to mine CAU without the need for a constant internet connection, by paying rewards based on mining difficulty we were able to separate the mining from block generation we were able to create a new transaction and work on it to achieve a preselected difficulty and does not depend on any information from the network. Canxium not only makes mining more accessible to a wider user base but also significantly improves the energy efficiency of the blockchain network. This represents a significant advancement in cryptocurrency mining.

This section explains the offline mining process, illustrating how it aligns with Canxium's commitment to accessibility and sustainability.

## **Mining Process**

- a. **Choosing Mining Difficulty:** In Canxium's offline mining, choosing mining difficulty is the first step. The offline miners are free to select their desired difficulty hash. Higher difficulty gives more reward, however, time to mine new transactions is slower, and choosing less difficulty results in low reward but time to mine new transactions is faster. In both ways, the final total reward is the same. It gives the miners a choice of difficulty based on their mining equipment.

b. Generating a Mining Transaction: Offline miners initiate the mining process by generating a specialized mining transaction. This transaction is distinct from the standard transaction and contains mining information, including a difficulty and algorithm chosen by the miner.

JavaScript

```
Type:      '0x3',
ChainID:   3003,
Nonce:     0,
GasTipCap: 0,
GasFeeCap: 0,
Gas:       100000,
From:      '0x690b9a9e9aa1c9db991c7721a92d351db4fac990',
To:        '0x6c6331CA2BC039996E833479b7c13Cc62Ab5c6BA',
Value:     4520000000000000,
Data:      '0x819232400000000000000000000000005240e646168c56f4cedd389bbd38a7428fb3667f',
Algorithm: 1,
Difficulty: 1000000000000,
MixDigest:
'0x0000000000000000000000000000000000000000000000000000000000000000',
PowNonce: 0,
```

- Type: This struct defines a new mining transaction, type 0x3.
- ChainID: Define chain id, 3003 is Canxium mainnet.
- Nonce: Account nonce of the mining address.
- GasTipCap: Priority fee per gas, mining transaction is gas free.
- GasFeeCap: Gas fee cap, same as GasTipCap.
- Gas: This transaction will interact with a smart contract, normally it will be used up to 57,759 Gas.



- From: The mining address has to be the same as the transaction sender to prevent a replay attack.
  - To: Send this transaction to the mining contract defined in the genesis file, otherwise, it will fail.
  - Value: Mining reward, have to equal:  $\text{Difficulty} * 4250$ .
  - Data: Input data for the smart contract: `0x8192324` is the trigger function, `5240e646168c56f4cedd389bbd38a7428fb3667f` is the receiver address.
  - Algorithm: Mining algorithm, 1 is Ethash - the only algorithm supported at the present.
  - Difficulty: The chosen difficulty.
  - MixDigest: The Hashimoto algorithm mixhash, will be set after we find the random number.
  - PowNonce: The random number we found that satisfies the difficulty using the Hashimoto algorithm.
- c. Transaction Identification: Transaction identification plays a crucial role in verifying the authenticity of mining activities. It encapsulates various elements of the transaction, ensuring that even the slightest modification to any parameter will yield a distinct transaction hash. This robust identification process safeguards the network against fraudulent activities and maintains the integrity of Canxium's ecosystem.
- d. Dataset Generation (Ethash Only): A dataset is a fundamental step in the Ethash algorithm. While traditional block mining bases its datasets on the block number, transaction mining generates datasets based on the account nonce. This approach ensures that offline

miners can efficiently engage in the mining process using Ethash algorithm without the need to synchronize with the entire blockchain.

- e. Mining: The miners search for a valid mining PoW nonce. Once they find it, they broadcast the transaction to the Canxium blockchain. Canxium's validators will validate and seal the broadcasted transaction to block, and a new CAU is created as a reward. The reward is shared between offline miners, validators, and foundation funds.

The seamless integration of offline mining into Canxium's blockchain presents our dedication to inclusivity, environmental responsibility, and decentralized participation.

### **Benefits of Offline Mining**

Offline mining offers several advantages that contribute to the Canxium network and its users:

- Decentralization: Offline mining widens participation and prevents mining power centralization. Individuals who lack a constant internet connection can still contribute to the network's security, fostering a more diverse and decentralized ecosystem.
- Inclusivity: Offline mining extends mining opportunities to regions with unsteady internet access, ensuring that individuals from all over the world can actively engage in the mining process.
- Gas-Free Transactions: Canxium's offline mining transactions are gas-free. It eliminates the need to pay transaction fees for the miners and maximizes profit. It ensures that the miners can focus on the mining process without worrying about additional fees.

- Flexibility for Miners: Canxium offers flexibility to offline miners to hold their transactions until they want to receive their CAU reward. This feature enables miners to control and strategize their mining activities more effectively.

## **7. Tokenomics**

Canxium's unique tokenomics form the foundation of its ecosystem, representing the distribution, circulation, and utility of the CAU. This section delves into the key aspects of Canxium's tokenomics, outlining the principles that govern the CAU's supply, utility, and role within the network.

### **7.1. Unlimited Supply**

Canxium operates with a dynamic and adaptive token supply and has no maximum supply. There is no limit set for the maximum supply of CAU. It adopts a demand-driven approach, where the coins are mined on market demand. It allows the network to respond to changing demands and usage patterns. However, mining a new coin is not easy and needs to reach a total of 4 PH difficulty to create a new CAU. Therefore to achieve infinite total supply is mathematically impossible.

### **7.2. Block Reward**

Canxium has a fixed block reward before the merge to PoS:

- Before the Merge: The block reward is fixed at 0.25 CAU. The block reward is fixed to ensure enough circulating supply before shifting to a variable mining reward based on demand.

- After the Merge: The fixed reward at 0.25 CAU will be removed. There is no block reward in the PoS chain.

### **7.3. Block Reward Distribution**

Canxium's Foundation funds will receive more funds from block reward till PoS for the development of the project in the early stages.

- Before the Merge: Currently 75% of the block reward is credited to the miners and 25% goes to the foundation fund for the development and marketing of Canxium in the early stage.
- After the Merge: No block rewards.

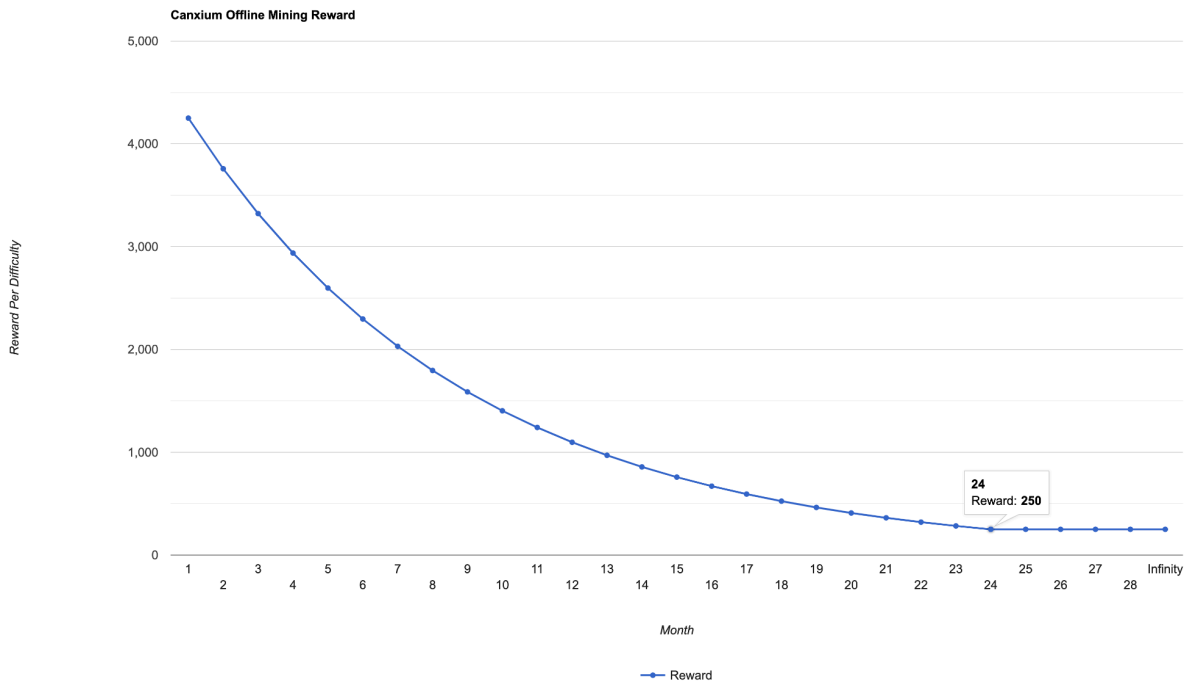
### **7.4. Transaction Reward**

The transaction mining reward will be determined by difficulty, and start as 4250 Wei per difficulty if the mining algorithm is Ethash.

Before PoS, offline mining will not be available on mainnet because we want miners to focus their resources on block mining to secure the PoW network. After PoS, offline mining will be the only way to generate more CAU. The mining difficulty adjustment process will take place slowly over 24 months after the successful merge to PoS, will start with a mining reward at 4250 Wei per difficulty and end at 250 Wei per difficulty.

$$Reward (N) = 4250 * 0.8842 ^ (N-1)$$

[N >= 1 & N <= 24]



After this process, the reward will be permanently fixed as 250 Wei:

Difficulty	Mining Reward	Miner Reward	Validators
10 TH	0.0025 CAU	0.001875 CAU	0.000375 CAU
1 PH	0.25 CAU	0.1875 CAU	0.0375 CAU
10 PH	2.5 CAU	1.875 CAU	0.375 CAU

## **7.5. Transaction Reward Distribution**

The transaction mining rewards are distributed 70 - 75% to offline miners to mine the transaction, 15% to Canxium's validators, and 10 - 15% to foundation funds.

**Foundation Funds:** Canxium mainnet launched with no pre-mine, no airdrop, and no private sale. So the funds required for the development and marketing of the project are taken from foundation funds. 10 - 25% of the reward will be deposited in foundation funds. The percentage for foundation funds is higher for the first year as the project needs more funds in the early stages for marketing, exchange listing, ecosystem development and other tasks. The fund will be used carefully and slowly for the purpose of developing the ecosystem.

## **7.6. Hydro Fork**

The Hydro Fork will occur at block 4,204,800. This fork will enable offline mining on Canxium mainnet. Hydro Fork can take an estimated one year to occur by taking an average block time of 8.5 sec. CAU supply will reach the circulating supply of 1,051,200 CAU at the Hydro Fork.

## **7.7. Transaction and Contract Fees**

- Transaction fees on the Canxium network are reasonable. Transaction fees are set to 2 nCAU per 100 KH difficulty in the PoW chain. Transactions are processed rapidly and securely, reflecting Canxium's commitment to scalability and efficiency.
- Smart Contract Creation Fee: Smart contracts are integral to Canxium's ecosystem, facilitating a multitude of use cases. Canxium

ensures the creation of only quality contracts on its blockchain. This is possible due to high contract creation fees. Contract creators have to pay at least 100 CAU per contract creation. The fee is necessary to prevent the creation of spam contracts. Canxium welcomes innovative ideas and will support them by paying contract creation fees.

Canxium's tokenomics illustrates a balanced and adaptive approach that aligns incentives, encourages participation, and ensures the network's sustainability.

## **8. Use Cases**

Canxium's unique blockchain infrastructure and mechanisms enable a wide range of real-world applications. Due to Canxium's demand-driven supply and reliability, there are a large number of use cases of CAU. This section explores some of the prominent use cases that highlight Canxium's potential in various fields.

### **- Stability**

One of the standout features of Canxium is stability. In the cryptocurrency ecosystem often characterized by extreme volatility, Canxium offers an innovative solution. Its demand-driven supply mechanism and controlled block rewards, create a market with fewer price fluctuations. This feature appeals to those seeking a more reliable cryptocurrency experience. Individuals and businesses can transact with confidence, free from the influence of sudden price fluctuations.

## - **Medium of Exchange**

Canxium reimagines the concept of money as a digital medium of exchange. It is designed as a mainstream adoptable cryptocurrency. Its fast and efficient transactions combined with low fees, make it a practical choice as a global medium of exchange. With the added assurance of price reliability, Canxium can serve as a dependable medium for everyday transactions.

## - **Cross-Border Payments**

Cross-border transactions often require high fees, long settlement times, and intermediary involvement. Canxium's global accessibility and near-instant transactions enable cross-border payments without intermediate and at low fees. This empowers individuals and businesses to transact across borders easily without worrying about price fluctuations.

## - **E-commerce and Marketplaces**

Canxium can serve as a mainstream currency in the digital age. It fits easily in e-commerce ecosystems. Online merchants and marketplaces can integrate Canxium as a payment option, offering customers an alternative to traditional payment with low transaction costs and faster settlements. Moreover, less price fluctuations add a layer of reliability to transactions.

## - **Decentralized Finance (DeFi)**

Canxium's blockchain architecture aligns easily with the principles of decentralized finance (DeFi). Its smart contract capabilities enable the creation of innovative financial instruments, lending protocols, and yield



farming platforms. Canxium's price reliability and low-cost transactions can enhance the DeFi experience. Canxium's DeFi ecosystem is built on transparency, security, and accessibility.

- **Investment Asset**

Canxium's unique mechanism and blockchain architecture with fewer price fluctuations in the short term makes it an appealing investment asset to investors. Investors looking to invest in cryptocurrency with low risk may find Canxium to be a compelling addition to their portfolios.

- **Enabling DApps**

The underlying blockchain of Canxium provides a solid foundation for the development and deployment of decentralized applications (DApps). DApps built on the Canxium network can leverage its transaction speed and cost, security, and stable environment. Canxium's infrastructure serves as a foundation for developers to build, deploy, and scale their DApps securely.

## 9. Roadmap

Canxium's journey is marked by a comprehensive roadmap that outlines our strategic milestones and development trajectory. The roadmap below highlights key stages in Canxium's evolution.

### **Phase 1: Foundation and Development (2023–2024)**

- 5/2023: Start Canxium mainnet.
- 8/2023: Start Cerium testnet to test the Hydro fork and offline mining.
- 5-6/2024: Mainnet Hydro hardfork.

### **Phase 2: Hybrid Chain: PoS + PoW [Offline Mining] (2024)**

- Difficulty-based reward is a bold idea, but it has its drawbacks, which we are fully aware of. One of the downsides is its negative impact on the safety of the network as the demand is so low that it prevents miners from continuing to contribute their mining powers to protect the network. Therefore, separating the coin mining and the chain operation is an urgent and vital issue.

Canxium will inherit Ethereum's proof of stake mechanism to save time and cost of PoS development. However, the PoS rewards mechanism will be changed, PoS rewards will only be distributed if validators' balance drops below 320 CAU due to penalties. This is a mechanism to ensure validators continue to stay with the network, to avoid the situation where validators' balances continuously decrease due to accumulation from the penalty mechanism.

The main PoS rewards will come from offline mining. Validators will share 25% of the mining rewards with miners.

### **Phase 3: Ecosystem Growth (2025 - Future)**

- Integration with E-commerce Platforms and Payment Gateways.
- Expansion of Decentralized Finance (DeFi) Ecosystem.
- Launch of Canxium Developer Portal to Foster DApp Development.
- Use the foundation funds to develop and grow the ecosystem of Canxium.

### **Phase 4: Adoption and Expansion (2026)**

- Canxium Adoption Campaigns and Community Engagement Initiatives.
- Strategic Partnerships with Businesses and Institutions.
- Exploring Layer 2 Solutions for Scalability.
- Focus on the scalability of the blockchain.

As Canxium advances through these phases, we remain committed to open communication with our community. The roadmap will evolve in response to user feedback, technological advancements, and market demands. Our continuous dedication to innovation ensures that Canxium remains at the forefront of blockchain technology, delivering real-world solutions and empowering individuals and businesses on a global scale.