

Empower your crypto, earn while you hold!

Joe Blau • Engineering • <u>joe@atomize.xyz</u> Johad Ellis • Product • <u>johad@atomize.xyz</u>

Introduction

Since the birth of Bitcoin in 2009, counterparties have convinced investors to give them resources in exchange for the promise of secured funds and yield. Time and time again, we've seen these centralized counterparties fail. Failure modes include hacks, over-leverage, insider trading, poor accounting, fraud, and opaque communication. Crypto was invented to eliminate middlemen and remove counterparty risk. The FENIX protocol uses open-source code on public blockchains to provide a hyperstructure that rewards crypto stakers for delayed gratification.

Vision

FENIX is designed to reward crypto community members who believe in the "crypto-first" principles of self-custody, transparency, trust through consensus, and permissionless value exchange without counterparty risk. FENIX's value is derived from the skills of the community members, who have the freedom to assemble and create value for FENIX. Since no single party will own an outsized amount of the initial supply, it encourages the entire community to cooperate and coordinate. The FENIX token is minted from the ashes of burned XEN. XEN is the fastest-growing cross-chain protocol with an initial vision of onboarding 100 million users into crypto.

Features

Equity

Having an equitable initial investment distribution is crucial for ensuring that all stakeholders have an equal opportunity to participate in and benefit from a project or venture. When investments are distributed fairly, it can help reduce conflicts and promote a sense of shared ownership and responsibility. This fosters a more collaborative and inclusive environment, which is essential for the success of any project. An equitable investment distribution also helps promote trust and transparency, as all parties are treated fairly and with respect. Overall, an equitable initial investment distribution is an essential component of a well-functioning and sustainable project or venture.

Time In Market

Having a long-term investment time horizon can be extremely beneficial for investors. This is because it allows for a more measured and disciplined approach to investing, as investors can focus on the long-term growth potential of their investments rather than being swayed by short-term market fluctuations. In addition, a long-term investment time horizon can help investors weather economic downturns and market volatility, as they can hold onto their investments for a longer period until conditions improve. This helps reduce the overall risk of investing and increases the likelihood of achieving long-term financial goals. Furthermore, a long-term investment time horizon allows investors to take advantage of the power of compound growth, as their investments have more time to grow and accrue returns. Overall, having a long-term investment time horizon can be a key factor in building wealth and achieving financial success.

Penalty Redistribution

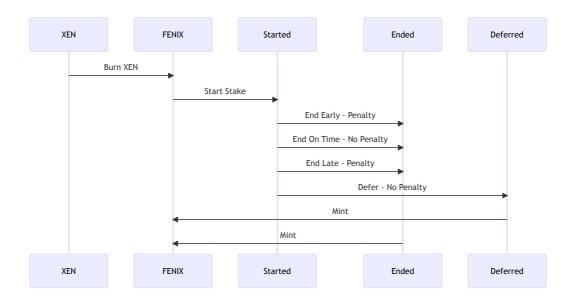
A system that redistributes penalties from investors who do not fulfill their commitments to those who do can be extremely valuable in promoting accountability and fairness in the investment process. Such a system helps discourage investors from making commitments they do not intend to fulfill, as they will be held financially responsible for their actions. This builds trust and confidence in the investment process, as investors know they will be held accountable for their commitments. In addition, a system that redistributes penalties levels the playing field for all investors, as those who fulfill their commitments are not unfairly

penalized, while those who do not are not rewarded. Overall, a system that redistributes penalties is a valuable tool in promoting integrity and fairness in the investment process.

FENIX Principles

Simple	No Back Doors	Users Mint Their Equity
No Investor Allocation	No Team Allocation	Fair Launch
No Pre-Mine	No Origin Address	No Maximum Cap
Proof of Participation	Immutable	No Admin Keys
Starts at Zero Supply	No Management Team	Hyperstructure
No Sacrifice	No Initial Coin Offering	

Process



Tokenomics

XEN to FENIX Ratio: 10_000 : 1

Burn

FENIX rises from the ashes of burned XEN. 10,000 XEN burned equals 1 FENIX.

burnRatio = 10,000XEN: 1FENIX

When any FENIX user burns XEN they will be rewarded in accordance with the burnRatio

$$\frac{XEN}{10,000} = FENIX$$

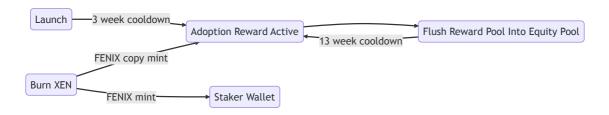
Note: Fixed Burn Ratio

The burn ratio is fixed. Since XEN is disinflationary, it will become increasingly difficult to burn XEN for FENIX.

Pools

Adoption Reward Pool

FENIX offers an Adoption Reward for stakers, which is generated every time someone burns XEN to create FENIX. Each XEN burn results in both an original FENIX mint and a FENIX copy mint. The original FENIX mint is sent to the staker's wallet, while the FENIX copy mint is allocated to the reward pool.



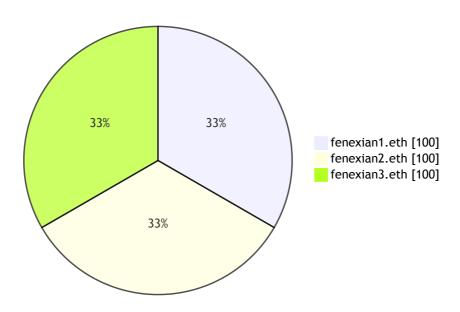
Note: Payday Pool Party

Every 13 weeks, FENIX hosts a Payday Pool Party. This event can be triggered by any on-chain contract user, bot and allows the flushing of the Reward Pool into the Equity Pool. This inflationary event rewards stakers in direct proportion to their shares in the Equity Pool.

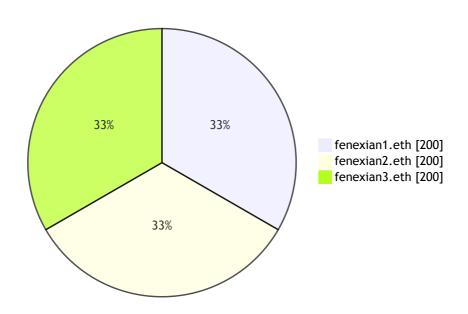
Equity Pool

FENIX manages inflation through an equity pool, allowing inflation to be added and removed from the pool while distributing equity to stakers in a gas-efficient manner. When users initiate stakes, they increase the size of the pool, and when they end stakes, they reduce the pool's size. As the size of the pool is dynamic, it does not require any additional accounting beyond knowing the stakers' equity positions.

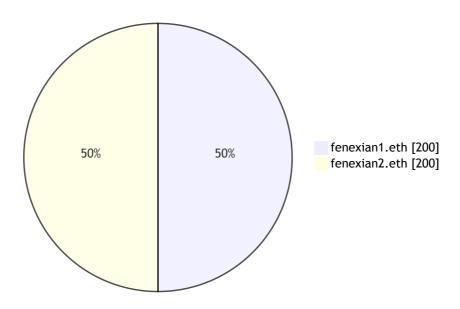
1. Three addresses stake 100 FENIX each. The Equity Pool is 300 FENIX.



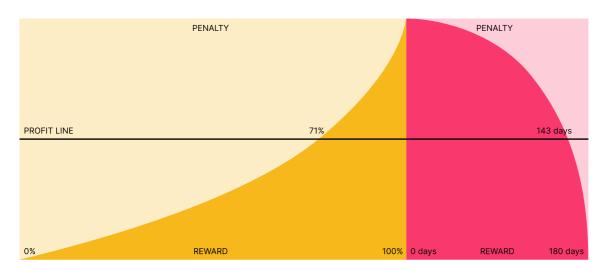
2. 300 FENIX in new inflation is added to the Equity Pool which could be from new stakers or Adoption Reward. The new Equity Pool total is 600 FENIX.



3. fenexian3.eth ends their Stake, which removes their supply from the Equity Pool. fenexian3.eth mints 200 FENIX. The new Equity Pool total is 400 FENIX.



Staking



- Stake & Early End Penalty Period This period ranges from 0% to 100% of your stake term. The stake term can last anywhere from 1 day to 7,665 days 21 years. Your stake will typically break even when approximately 71% of your stake term is completed.
- Late End Penalty Period This timeframe spans from 0 days to 180 days after your stake matures. Your late stakes will break even if you end them sooner than approximately 143 days from your stake's maturity date.

Inflation Rate

FENIX features a fixed rate of inflation, generated by stakers and paid to stakers. The supply of FENIX is uncapped. Apart from the Adoption Rewards, the inflation rate is fixed, with no other means to produce FENIX. FENIX's inflation rate approximates ϕ , the Golden Ratio.

$$inflationRate = 1.618033988749894848$$

Note: Equity Pool

Inflation is injected into the Equity Pool as soon as a stake begins. The only way for stakers to capture the return is by waiting until their specified stake term is complete and ending the stake on the selected day.

Stake Start

The stake start utilizes Time and Size bonus functions to calculate your equity stake in the pool shares.

Time Bonus (τ):

The amplification of your bonus grows exponentially with your stake duration. The duration of a stake term is capped at 7,665 days 21years, but there are penalties for ending early and ending late.

$$\tau = 1 + (\frac{term}{7665})$$

Size Bonus (σ):

The amplification of a base stake's bonus is based on the amount you stake. The size of a stake is limited by your wallet supply. The larger your stake, the larger your bonus.

$$\sigma = 1 - (\frac{1}{fenix})$$

Total Bonus (β):

The sum of the time and size bonuses is calculated upon starting a stake. This total bonus generates a compound growth curve, rewarding larger and longer stakes.

$$\beta = \sigma * e^{(\tau)}$$

Shares:

Your shares are determined by dividing your total bonus by your shareRate . The shares represent your equity in the staking pool.

$$shares = \frac{\beta}{shareRate}$$

Note: Share Rate

When a stake is ended, FENIX calculates the inflation paid to the owner. If the owner has a higher gain than the maximum return on investment ever received, the shareRate is updated to reflect the highest possible return. This share rate ratchet mechanism ensures that later stakers can never get a better deal for the same economic energy staked into the contract.

Stake Defer

Acknowledge that the owner still has access but is not yet ready to receive tokens. Early deferral can be triggered by the owner of the stake. Late deferral can be triggered by any smart contract user.

Stake End

Ending your stake exists along two continuous functions. One function increases the percentage of your stake before your target date, and the other decreases the percentage of your stake after your target date.

Ending a stake distributes the tokens to the owner's address while redistributing any penalties to the staking pool. This function can only be triggered by the owner of the wallet.

End Early (ϵ):

Ending a stake prematurely results in a penalty to the stake return. The more of a term's duration that is completed, the lower the penalty applied to that term. Lower penalties result in higher rewards.

$$\epsilon = \left(rac{blockTs - stakeTs}{term}
ight)^2$$

End Late (1):

Ending an overdue stake results in penalties. The stake is penaltized for 180 days until nothing is left. The penalty function is graceful and does not redistribute over 50% of your stake until day 143.

$$\lambda = 1 - \left(rac{lateDays}{180 days}
ight)^3$$

Glossary

Terms

- τ Tau/TimeBonus The time bonus calculation for a stake. This bonus rewards a staker for longer delayed gratification.
- σ Sigma/SizeBonus The size bonus calculation for a stake. This bonus rewards a staker with more
 tokens based on the number of tokens staked.
- ullet $oldsymbol{eta}-Beta/TotalBonus$ The total bonus, which is the sum of the time bonus and the size bonus.
- ε Epsilon/EarlyPenalty The penalty for prematurely ending a stake. The penalty costs the staker
 the square of the served term.
- $\lambda Lamda/LatePenalty$ The penalty window for ending a stake. A staker will lose a percentage of total earnings over the course of 180 days. At the end of 180 days, the stake reward will be 0.

Acknowledgements

- Bitcoin Jan8, 2009 Censorship-resistant, zero counterparty risk value storage and transfer
 - Links: Source Code Website
- ullet Uniswap V1 Nov2, 2018 Equity-based liquidity pool
 - Links: Source Code Website Contract
 - o Influential Concepts:
 - Liquidity Pools <u>Equity Pool</u>
- ullet Cereneum Jun6, 2019- Time-based, interest-bearing Cryptographic Certificate of Interest
 - Links: <u>Source Code</u> <u>Website</u> <u>Contract</u>
 - o Influential Concepts:
 - Staking Longer Pays More <u>Time Bonus</u>
 - EndStakeForAFriend <u>Defer</u>
 - Robin Hood Bonus Adoption Reward
 - Early Unstake Penalty End Early
 - Late Unstake Penalty End Late
- ullet HEX Dec2,2019 Share rate ratcheting, increasing the cost basis for later stakers
 - Links: Source Code Website Contract
 - Influential Concepts:
 - Bigger Pays Better <u>Size Bonus</u>
 - T-Shares Shares
- ullet XEN Crypto Oct 8, 2022 Cross-chain protocol launch
 - Links: <u>Source Code</u> <u>Website</u> <u>Contract</u>
 - o Influential Concepts:
 - First Principles <u>First Principles</u>
 - Proof of Burn <u>Burn</u>