

Minima Coin - Monetary Policy & Coin Mechanics

Minima is, by its very nature, a lean and minimalist protocol. Our monetary policy and token mechanics stay true to this. Minima is valuable and useful.

Primary Monetary Policy.

Minima is a PoW-backed, hard-capped “Store-of-Value” digital asset. As a Proof of Work asset we are “commodity money” with intrinsic value based on the power required to secure the network. Minima is ultra-resilient via maximal decentralisation enabled by its truly permissionless nature; anyone can run a complete, block constructing and validating node. Featuring a fixed cap monetary policy similar to Bitcoin, but with all 1 billion Minima coins minted in the Genesis Block. Zero inflation from day 1. In addition, Minima uses a hash sum tree based MMR database - that trivially enables the total amount of coins in the system to be calculated, every block, by everyone, making “inflation attacks” a thing of the past.

Secondary Coin Mechanics.

Two secondary mechanisms within the Minima base layer protocol require Minima coins in order to function properly:

1. Transaction Burn; a free-market pricing mechanism that uses coin burns in order to prioritise a transaction's inclusion within a block as it is broadcast to the network (similar to Mining Fees on BTC but paid to no one). When coins are burnt, they are removed from Minima's total supply (1 billion) permanently, benefiting all coin holders with a small amount of deflation by adding to scarcity over time. The Burn also plays a key role in combating Distributed Denial of Service (DDoS) attacks, making them expensive to sustain. Unlike miner fees, the Burn has no minimum amount (due to Scalar Decimal Precision (see below), fluctuating in value based on free market forces / network traffic. Urgent transactions will need to Burn more than non-urgent transactions in order to get into the next block. The Burn is designed not to create upward pressure on price, but more as a tiny insignificant fee, a donation to the network that also prevents spamming and reduces bottlenecking.
2. Tokenisation via Coloured Coins: The only way to create cryptographic token sets and Non-Fungible Tokens is by “colouring” tiny fractions of a Minima Coin using our native scripting language (KISS). The concept of Coloured Coins was introduced on top of Bitcoin as early as 2013 in projects such as Counterparty.io. These initial implementations on Bitcoin, were a Layer 2 technology, non-native to the core protocol. Conversely, Minima includes this technology natively, at the protocol-level. Coloured Coins / Tokens are created by cryptographically assigning a “new identity” (TokenID) to a bundle of tiny fractions of a coin in order to represent other digital assets without any auxiliary databases / computations being done (as it is on Ethereum). These coloured coin digital assets can represent (and be redeemable for) a variety of things including real world assets and access rights etc. Quite simply, if you want to create tokens you will require Minima coins.

Noteworthy Interactions

There are two additional protocol-level mechanisms that are worthy of note. These mechanisms were put in place to future-proof Minima's transaction throughput, ensuring the network can scale seamlessly in the scenario of long-term, mass adoption.

Scalar Decimal Precision

What would the mining fee for Bitcoin be if Satoshi had included 3 more decimal places? No doubt people would have started bidding from the smallest decimal. So perhaps Bitcoin fees could have been 3 orders of magnitude less expensive than they are now? But as an asset grows exponentially in value (as so many digital assets have) how do we ensure that TX fees remain affordable forever?

Minima has been designed to be infinitely divisible. Infinitely affordable. Infinitely useful.

What does this mean for our economic model? Let's break it down. In this context "Decimal Precision" relates to the maximum degree of fractionalisation that is possible with a coin. However, the important word here is "Scalar". The result is that any coin or token (coloured coin) that wishes to be included within a transaction must be within 16 decimal places of the current Burn fee's decimalisation.

Example: The Burn for processing the next block transaction is set by market forces at 0.01 MINI. Any token that wishes to be valid for inclusion within this block cannot have a Token Genesis Decimalisation of anything less than 0.000000000000000001 MINI. So, a stack of tokens created at 50 decimal places could not be included in the same block with a Burn that is at 3 decimals.

Why did Minima opt for this unique approach to coin denomination? It was done in order to ensure affordability of tokenisation now and into the distant future. Due to Scalar Decimal Precision, Minima never runs out of available and affordable fractions of Minima that can be used for tokenisation (via Coin Colouring) nor will Minima's Burn fee ever become too expensive.

Adaptive block scaling

The Block Size of other blockchains tends to be fixed leading to huge spikes in transaction costs during busy times. To fix this, Minima introduces protocol-level Adaptive Block Scaling (ABS); a block-by-block adjustment of the Block Size relative to the previous 24 hours of on-chain transaction throughput. This adjustment allows the maximum number of transactions per block to grow (and shrink) in relation to how much traffic there is. Bottlenecks are reduced very quickly as is a dampening of any spike in fees. No mempool congestion or gas wars on Minima. This mechanism is similarly "self-aware" to Bitcoin's Difficulty Adjustment Algorithm except Minima's ABS was designed to keep transaction costs (Burns) reasonable at all times, whilst acting swiftly to neutralise any artificial congestion created by external bad actors.