

# PulseBitcoin

Welcome to a better Bitcoin!



## **Abstract**

### **Problems and Solution**

The "Bitcoin" brand is very well-known by much of the world, but many people still refuse to adopt it!

Why?

Bitcoin suffers from many critical problems that prevent its continued adoption. Just to name a few: it's slow, expensive to use, requires special equipment to effectively mine it[1], it is not environmentally sustainable[2], it has had numerous inflation vulnerabilities[3][6], it is not compatible with existing DeFi (without the use of middlemen), it does not scale as well as Ethereum network(s)[4][10][11][12], and the list goes on and on... The world deserves a better Bitcoin, and the solution has finally been created: **PulseBitcoin**

PulseBitcoin offers cheaper transactions, faster transactions, a quicker reward halving cycle, inclusive mining, a scarce supply, native compatibility with existing DeFi, more security, high scalability, and most importantly, it is environmentally sustainable and energy efficient.

To make the world a better place we must amend the current "Bitcoin" and make it greater in every way that actually matters!

*"PulseBitcoin is not a copy, it is a much-needed innovation!"*

### **Mining**

PulseBitcoin can be mined into existence, just like Bitcoin, except instead of using exclusive and expensive mining hardware known as Application Specific Integrated Circuits (ASIC Miners) and the constant use of electricity, PulseBitcoin exclusively uses Software (ASIC Tokens - Application Specific Internet Coin) and Time. No hardware required!

Just lock 1 or more ASIC Token(s) for 30-day intervals and get rewarded in PulseBitcoin (PLSB). It's that simple! *"Mine Time, Not Pollution!"*

## Bitcoin vs PulseBitcoin

### 1. Faster Transactions

#### Network Comparison

PulseBitcoin exists on the Ethereum Network, which operates at ~12 second blocks. Compare this to Bitcoin where just a single block confirmation can take over 10 minutes to complete!

Also, once PulseChain is released, you will get even faster and cheaper transactions (~3 second blocks)! [13]

### Let's Compare the Speed of Each Network

Bitcoin Network



**10-Minute** Average Block Time

Ethereum Network



**12-Second** Average Block Time

*(PulseBitcoin lives on Ethereum)*

PulseChain Network



**3-Second** Average Block Time

*(PulseBitcoin will exist natively on PulseChain upon its release)*

## 2. Scarce Supply

### Supply Comparison

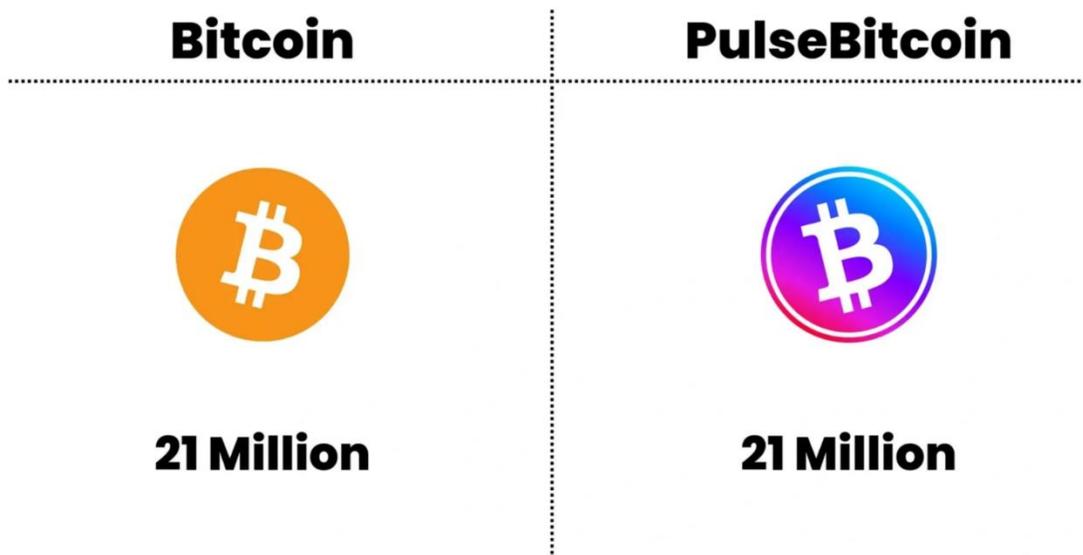
Bitcoin Supply: **21,000,000**

PulseBitcoin Supply: **21,000,000**

PulseBitcoin has the exact same scarce supply as Bitcoin does, 21 million.

Users of PulseBitcoin will also receive an exact 1:1 version of PulseBitcoin on PulseChain immediately upon its launch, automatically, zero work from you required!

## Let's Compare Coin Supply



We can see that PulseBitcoin is just as scarce as Bitcoin will ever be!

### 3. Faster Halvings

#### Halving Comparison

Bitcoin's mining reward (inflation) is programmed to halve every 210,000 blocks or about every 4 years.\*

PulseBitcoin's mining reward is also designed to halve, but every ~6-12 months!\*\*

Here's something interesting: Halving events are correlated with Bitcoin's price appreciation to the upside![5]

## Let's Compare Halvings

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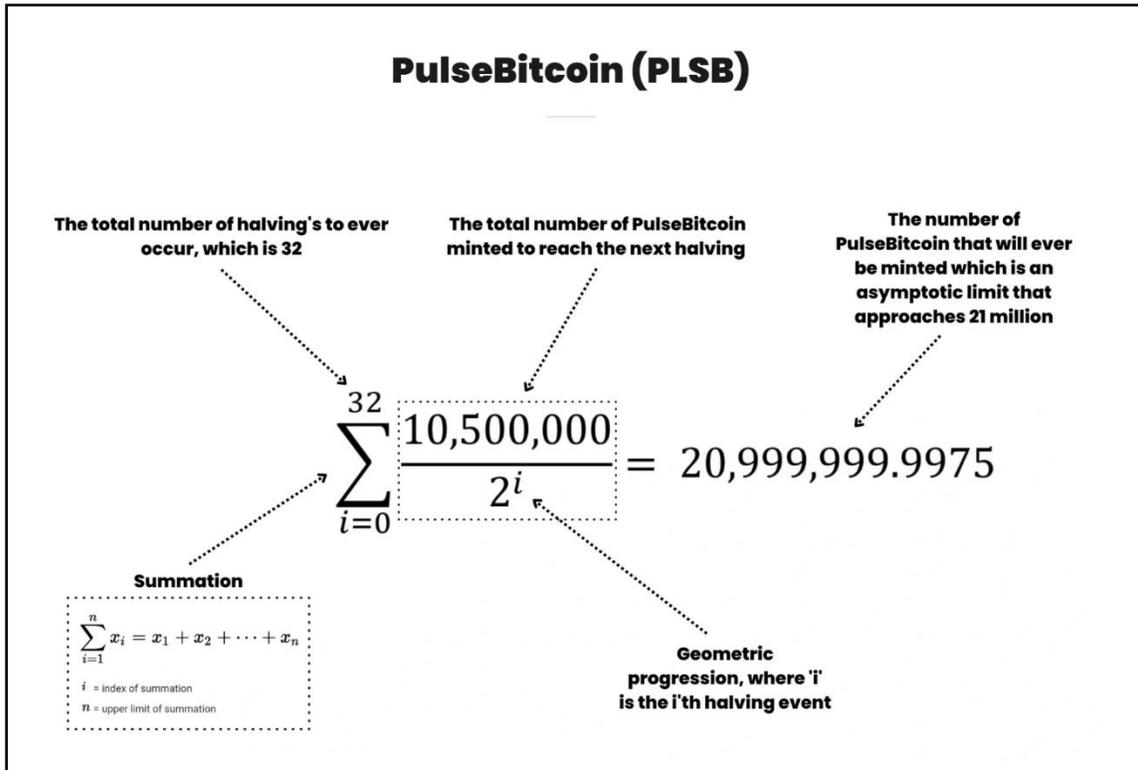
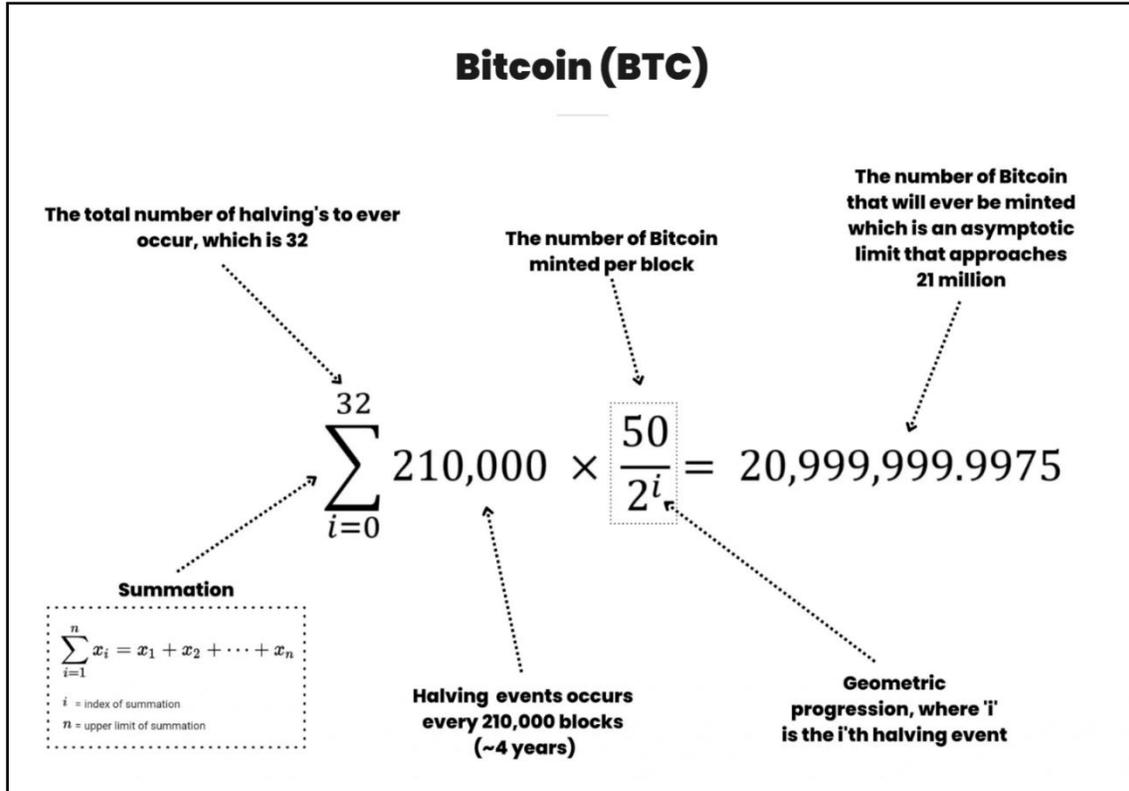
Bitcoin	PulseBitcoin
$\sum_{i=0}^{32} 210,000 \times \frac{50}{2^i} = 20,999,999.9975$	$\sum_{i=0}^{32} \frac{10,500,000}{2^i} = 20,999,999.9975$
Bitcoin Halving Cycle: about every ~4 years*	PulseBitcoin Halving Cycle: ~ a few months to a few years**
Sum after 32 Cycles: ~21M	Sum after 32 Halving Cycles: ~21M

\*The halving frequency is determined by the amount of hashing power that joins or leaves the network to mine new blocks.

\*\*The halving frequency is determined by the number of ASIC Tokens used to mine PulseBitcoin.

TLDR; The frequency is nondeterministic, meaning halving's could occur sooner or take longer than the estimated time based on mining participation.

## Halving Breakdown Comparison



## Halving Supply Comparison

### Bitcoin's Supply Halving

Halving	Date	Mining Reward (BTC)	Bitcoin Mined During Halving Cycle	Running Total of Bitcoin Mined	Percent Mined
Launch	Jan. 2009	50	10,500,000	10,500,000	50%
Halving 1	Nov. 2012	25	5,250,000	15,750,000	75%
Halving 2	July 2016	12.5	2,625,000	18,375,000	87.5%
<b>Halving 3</b>	<b>May 2020</b>	<b>6.25</b>	<b>1,312,500</b>	<b>19,687,500</b>	<b>93.75%</b>
Halving 4	Expected: 2024	3.125	656,250	20,343,750	96.875%
Halving 5	Expected: 2028	1.5625	328,125	20,671,875	98.4375%
...	...	...	...	...	...
Halving 32	Expected: 2136	0.00000001164153218	0.00244472175836563	20,999,999.997555	99.9999999883585%

### PulseBitcoin's Supply Halving

Halving	Date	Mining Fee Rate (ASIC)	Mining Reward Rate (PLSB)	PulseBitcoin Mined During Halving Cycle	Running Total of PulseBitcoin Mined	Percent Mined
<b>Launch</b>	<b>Oct. 2022</b>	<b>0.25%</b>	<b>7.50%</b>	<b>10,500,000</b>	<b>10,500,000</b>	<b>50%</b>
Halving 1	Expected: TBD	0.125%	3.75%	5,250,000	15,750,000	75%
Halving 2	Expected: TBD	0.0625	1.875%	2,625,000	18,375,000	87.5%
Halving 3	Expected: TBD	0.03125%	0.9375%	1,312,500	19,687,500	93.75%
Halving 4	Expected: TBD	0.0015625%	0.46875%	656,250	20,343,750	96.875%
Halving 5	Expected: TBD	0.00078125%	0.234375%	328,125	20,671,875	98.4375%
...	...	...	...	...	...	...
Halving 32	Expected: TBD	0.0000000000006%	0.0000000017462298274%	0.0024447	20,999,999.997555	99.9999999883585%

## 4. Inclusive Mining

### Mining Comparison

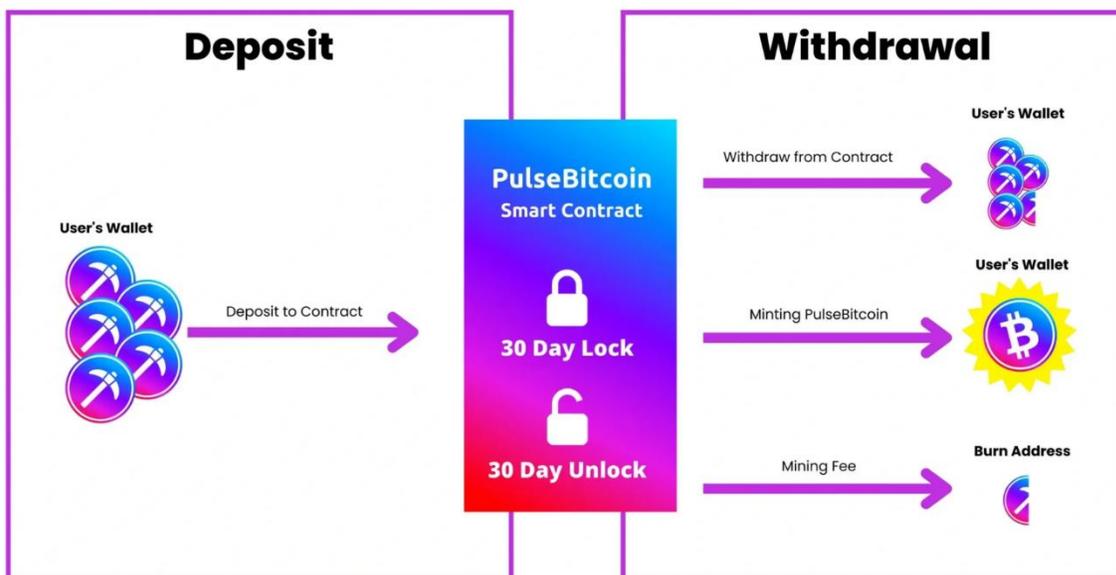
To mine Bitcoin, it requires an expensive and powerful GPU or hardware ASIC miner just to participate effectively, plus, the cost of the constant use of electricity![1] This is not feasible for the everyday person.

With PulseBitcoin, you don't need any of this! You only need ASIC Token and time!

Just lock up 1 or more ASIC Token(s) for 30-day intervals to start mining! Doing this is referred to as "Mining".

This allows everyone the same opportunity to mine PulseBitcoin regardless of global location, hardware, or the cost of electricity.

### Mining Simplified



Since PulseBitcoin does not require any special mining hardware it allows anyone in the world to mine new PulseBitcoin into existence just by acquiring ASIC Token and interacting with the PulseBitcoin smart contract.

## **5. DeFi Compatible**

### **Decentralized Finance (DeFi) Comparison**

Bitcoin lives on its own network, meaning, it is siloed from the existing trustless DeFi infrastructure that operates wonderfully well on Ethereum and other EVM Networks!

- If you want to swap to a stablecoin on Bitcoin, you must use middlemen.
- If you want to earn Yield on your Bitcoin, you must use middlemen!
- If you want to swap Bitcoin for any other crypto you must use middlemen!

PulseBitcoin offers all of these without the use of middlemen!

### **Complex Smart Contracts**

You may have heard before that Bitcoin is "limited" or "restricted" in its technical capabilities, but never knew exactly how.

Here are a few reasons:

- Bitcoin's scripting language is not Turing-complete, which significantly limits its computational use cases.
- Bitcoin also does not offer useful persistent storage, meaning all UTXOs would require TX state data which would add enormous complexity for simple tasks.

Both drawbacks prevent the Bitcoin network from gaining mass adoption!

PulseBitcoin again solves this by existing on a better network(s), the Ethereum Network, which allows complex smart contract execution (storage and otherwise) through the Ethereum Virtual Machine (EVM).

## **Decentralized Exchanges (DEX)**

Since PulseBitcoin exists on Ethereum currently, and later PulseChain, it offers everyone native options for peer-to-peer trustless trading.

Platforms such as: Uniswap, SushiSwap, PulseX, etc. are where transactions occur directly between users with zero counterparty.

- No middlemen required -

DEXs fulfill one of crypto's core use cases: *"fostering financial transactions that aren't officiated by banks, brokers, centralized exchanges or any other intermediary!"*[9]

Bitcoin does not offer native DEXs due to its technology limitations.

PulseBitcoin offers the decentralization dream Bitcoin can never fulfill!

## **Stablecoins, Yield Farming, NFTs, and so much more!**

As we can see, Bitcoin fails to offer peer-to-peer trustless trading, it also fails to offer useful stablecoins that you can trustlessly swap in to.

If there is one aspect that holds true about crypto, it's that it faces extreme price volatility, and while Bitcoin forces you to depend on a counterparty to offset risk into stables, PulseBitcoin offers many different types of stablecoin options, all while doing so trustlessly!

With PulseBitcoin, you can swap into any number of stablecoins such as: DAI, USDC, USDT, BUSD, TUSD, USDP, GUSD, and so many more!

Also, within the native Bitcoin ecosystem there is currently no way to earn trustless yield on your coins.

Compare this to PulseBitcoin and you have several options to earn yield on your coins, trustlessly, whether it be through platforms like Uniswap, SushiSwap, PulseX, etc.

NFTs have exploded in popularity over the last year, onboarding many new users into the Ethereum ecosystem, but due to Bitcoin's limited capabilities, it cannot compete.

## 6. More Secure

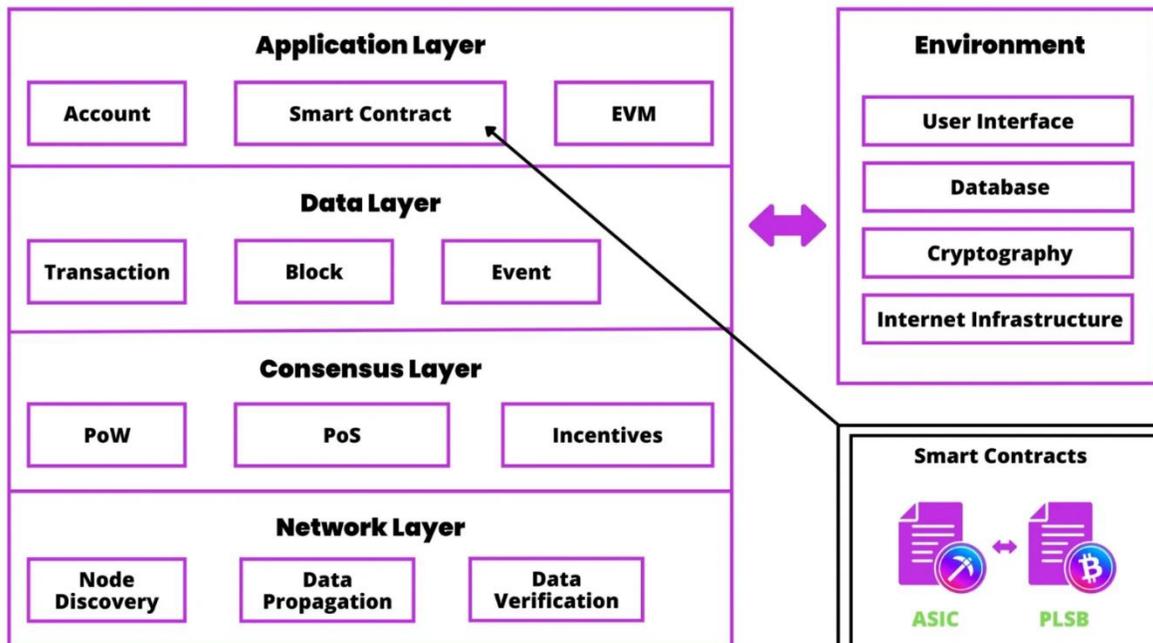
### Security Overview

Crypto holders, including many well-known crypto “influencers” have no idea that Bitcoin has a long history of security vulnerabilities[6], especially inflation bugs. Inflation bugs occur when someone on the network can mint free coins outside the defined parameters. Many think the only way Bitcoin is vulnerable to exploits is through 51% attacks. This is false!

A huge problem with Bitcoin is that its source code is not modular, so much so that some call it "spaghetti code". There is also no written spec or even code audits.

PulseBitcoin offers superior security through modularity, spec, and code audits!

### Software Compartmentalization



Bitcoin, as well as many other cryptocurrencies, have suffered from the most harmful of all blockchain bugs: Inflation Bugs.

Inflation bugs occur when anyone on the network can mint free coins at will, thus breaking the defined limits and parameters!

Bitcoin has experienced several of these types of software bugs over the years.[3] Harmful exploits such as these will continue to occur due to the Bitcoin's unorganized and non-modular code.

PulseBitcoin is designed in a much smarter way. The blockchain's consensus code is completely separated from the reward mechanism code. It is a simple difference, but extremely important to reduce risk!

### **Superior Blockchain Design**

The PulseBitcoin smart contract code is isolated from the blockchain's consensus code while Bitcoin's is not.

With PulseBitcoin, this means any change made to the blockchain's network or consensus code does not cause any changes to the smart contract layer code.

Compare this to Bitcoin, where in 2018 an inflation bug was introduced through an optimization to the networking stack documented under CVE-2018-17144.[7]

### **Code Audit**

Code audits play a crucial role during software development and implementation. Code audits typically are used to identify bugs or unintended logic operation during the software's execution.

Bitcoin has had zero code audits while PulseBitcoin's code has been audited!

## 7. Highly Scalable

### Scalability Overview

Bitcoin suffers from an inability to scale in nearly every aspect. Scaling issues such as the limited number of users that can participate in mining effectively, scaling transaction throughput via network improvements, or even scale regarding the tooling developers need to build alongside it.

PulseBitcoin solves every scalability problem Bitcoin suffers from just by operating on the Ethereum network(s). This allows PulseBitcoin to automatically inherit all improvements/features implemented to the L1 network as well as any L2 scaling technologies.

PulseBitcoin's value scaling potential (price) is also much, much higher vs. Bitcoin due to its swapping capabilities through DEX(s). These allow everyone easy-to-use, instant, binary value transfers. This means growth and scaling for PulseBitcoin's price is maximized instantly from launch!

### Network Scalability

Bitcoin's only "viable" scaling method is through the Lightning Network (LN). The lightning network (which is not unique to just Bitcoin) is an overly complex, prone to failure, Layer 2 payment protocol.

The LN has absolutely failed to gain any sort of adoption due to both its technical limitations as well as its legal reasons, not to mention the centralization problem it also introduces.[10][11]

Fun fact: More Bitcoin is "Wrapped" on Ethereum than currently exists on the Lightning Network![12]

Ethereum and EVM based networks solve network scalability through different Layer 1 solutions such as PulseChain (Full System state fork of Ethereum) as well as many different types of Layer 2 scaling solutions such as Optimistic Rollups, Zero-

Knowledge Rollups (zkRollups), and many others. Each of these scaling options offers different benefits and flexibility for scaling the network.[4]

PulseBitcoin, by existing on these networks, allows it to scale alongside the entire Ethereum and EVM ecosystem. This is by far the best way to operate at scale and why PulseBitcoin is Bitcoin's version 2.0!

### **Adoption Scalability**

One of the most limiting aspects of Bitcoin is that it is siloed off from nearly every other cryptocurrency market and ecosystem. Meaning, easy, trustless swaps to acquire Bitcoin is not easy or even possible for the average, everyday internet-crypto user.

This naturally leads potential adoption (buy pressure) away from Bitcoin over time and onto other networks that offer higher flexibility and scalability for onboarding new users.

An ever-growing number of new users get into cryptocurrency through "trusted" ERC-20 stablecoins, such as USDC, existing on both Ethereum and EVM networks. Stablecoin cryptos appeal to a vast number of new users, thus allowing a greater adoption appeal to networks that offer these types of assets.

This allows Ethereum, PulseChain, and by extension PulseBitcoin, the ability to scale adoption dramatically by easily onboarding new users into stablecoins, which provides a direct onramp to PulseBitcoin!

## **8. Environmentally Friendly**

### **Environment Impact**

We know most energy production causes pollution; we also know Bitcoin mining uses a tremendous amount of energy; therefore, Bitcoin causes pollution.[2] Many people argue that most of the energy used to mine Bitcoin is derived from "renewable" or "clean" energy sources, but "most" is not good enough for the world!

Hypothetically, even if nearly all energy used for mining Bitcoin was "clean" there would still be some coming from "dirty" energy sources[2], and this hurts the marketing and adoption for Bitcoin.

There is currently no roadmap or even interest being considered for a "clean" alternative to Bitcoin's current "dirty" Proof-of-Work (PoW) consensus mechanism.

PulseBitcoin solves this by existing on the Ethereum network, which now offers the environmentally clean and sustainable Proof-of-Stake (PoS) consensus mechanism and PulseChain, which will also offer Proof-of-Stake (PoS) upon its launch!

This makes PulseBitcoin the non-polluting, more energy efficient bitcoin solution!

### **Blockchain**

Bitcoin mining requires people to waste valuable physical resources through a process called "Proof-of-Work" (PoW). The reason PoW mining is even needed on the network is to "protect" it from being 51% attacked. PoW mining today causes unnecessary pollution to our environment due to the sheer size and scale of the network.

Even if you do not really care about the environmental impact of PoW the fact remains that many regular ever-day people do, including many lawmakers. Therefore, if you want to gain world adoption, you must eliminate the pollution argument entirely. We now have a cleaner, scalable, and proven alternative to protect blockchain networks through a process called "Proof-of-Stake" (PoS).

Both Ethereum and PulseChain are "Proof-of-Stake" networks making them the better, cleaner alternative to blockchain protection scalability. Since PulseBitcoin lives on these networks, it directly inherits all these benefits natively!

### **PulseBitcoin**

PulseBitcoin mining is completely separated from network block reward mining. PulseBitcoin mining only requires you to lock up ASIC Token(s) for 30-day intervals.

This mechanism just requires time, which honestly, is the most valuable human resource we have, and the best part, it does not cause pollution!

To clarify, PulseBitcoin lives on a cleaner network and rewards users for mining their valuable time through a non-polluting reward process!

This is what is referred to as a "win-win"!

### **Quick Summary**

To summarize, PulseBitcoin is designed to replace Bitcoin completely by being better in every way that actually matters!

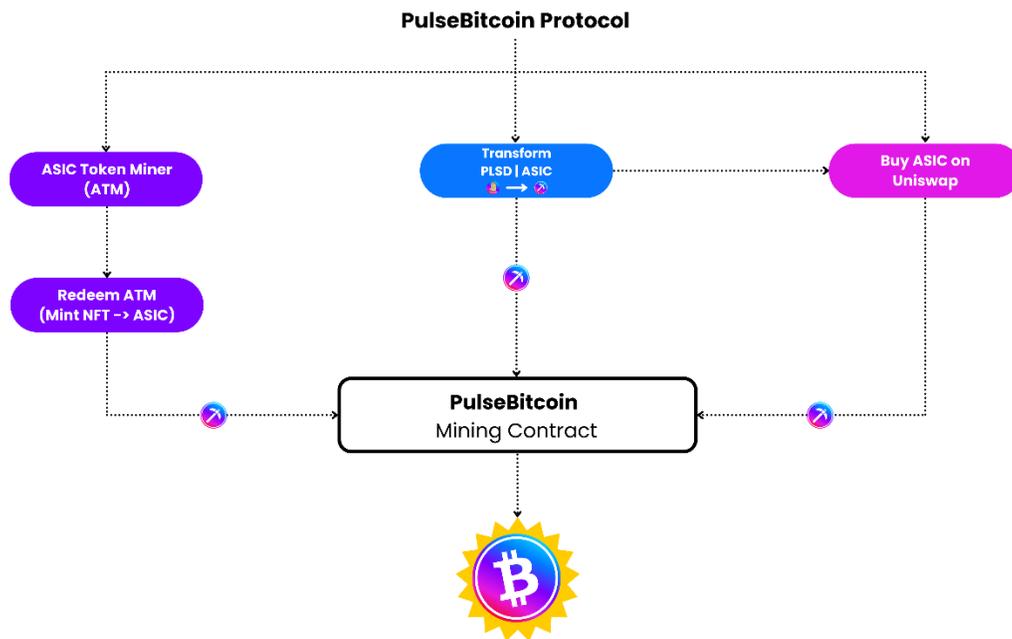
## ASIC Token

Today, Bitcoin is exclusively mined into existence by physical mining equipment know as Application Specific Integrated Circuits (ASIC Miners)[1]. Since these are only available to a select number of people, mining Bitcoin is not feasible for the everyday person!

PulseBitcoin solves this by exclusively using software to perform its mining operation by using Application Specific Internet Coin (ASIC Tokens). This allows anyone, anywhere in the world to mine the next generation Bitcoin. No hardware required!

There are 2 different ways of creating ASIC Token: ASIC Token Miners (ATMs) which can only be done the first 30 days and Transforming PulseDogecoin (PLSD) which can only be done the first 60 days. To clarify, both are limited time events.

After this, the only way for new participants to acquire ASIC Token is either through a DEX such as Uniswap or by purchasing and redeeming an existing ASIC Token Miner.



## 1. ASIC Token Miner (ATM) – First 30 days

### Details

An "ATM" or ASIC Token Miner is an NFT representation of ASIC Token. Creating an ASIC Token Miner (ATM) is the optional process of creating an NFT from the PulseBitcoin contract. This process is only available during the first 30 days of launch.

These NFTs can then be redeemed at any point after the 30-day launch period for ASIC Token(s). Each NFT can only be redeemed once, and the redemption value is determined by the current halving.

For every \$1 of time-weighted average value deposited into the ATM portion of the PulseBitcoin contract you will receive 1 point: \$1 = 1 Point. The following tokens are accepted for ATM point creation: USDC, USDT, DAI, WETH, HEX, and HDRN. These points can then be redeemed for ASIC Token(s) at any time after the 30-day launch, but know this, the longer you wait to redeem, the more ASIC Token(s) you will receive!

To clarify, if you purchase an ATM, hold it till a later halving, then redeem it, you will receive more ASIC Token(s) versus if you were to have redeemed it during an earlier halving period.

ATMs are designed to preserve mining power over time.

### ATM Redemption

#### Point Redemption Formula:

$$\text{Having } n \mid 1 \text{ Point} = n + 1 \text{ ASIC Token(s)}$$

Halving	Points	Halving Multiplier	ASIC Tokens
Launch	1 Point	1X	1 ASIC
Halving 1	1 Point	2X	2 ASIC
Halving 2	1 Point	3X	3 ASIC
Halving 3	1 Point	4X	4 ASIC
Halving 4	1 Point	5X	5 ASIC
Halving 5	1 Point	6X	6 ASIC
...	...	...	...
Halving 32	1 Point	33X	33 ASIC

## Examples

### Example #1



Hypothetically, let's say ETH (ETH/WETH - Wrapped Eth) is trading at exactly \$1,500.

Alice uses **1 WETH** to create an ATM

That's **1.0 WETH (TWAP) = \$1,500 of value = 1,500 Points**

Alice can redeem these points any time she chooses, but, can only redeem once, so her choices are as follows:

- **Halving 0:** 1 Point = 1 ASIC | if redeemed: **1,500 ASIC**  
...or wait till...
- **Halving 1:** 1 Point = 2 ASIC | if redeemed: **3,000 ASIC**  
...or wait till...
- **Halving 2:** 1 Point = 3 ASIC | if redeemed: **4,500 ASIC**  
...or wait till...
- **Halving 32:** 1 Point = 33 ASIC | if redeemed: **49,500 ASIC**

### Example #2



Hypothetically, let's say HEX is trading at exactly \$0.03

Bob uses **500,000 HEX** to create an ATM

That's **500k HEX (TWAP) = \$15,000 of value = 15,000 Points**

Bob can redeem at any time he chooses, but, can only redeem once, so his choices are as follows:

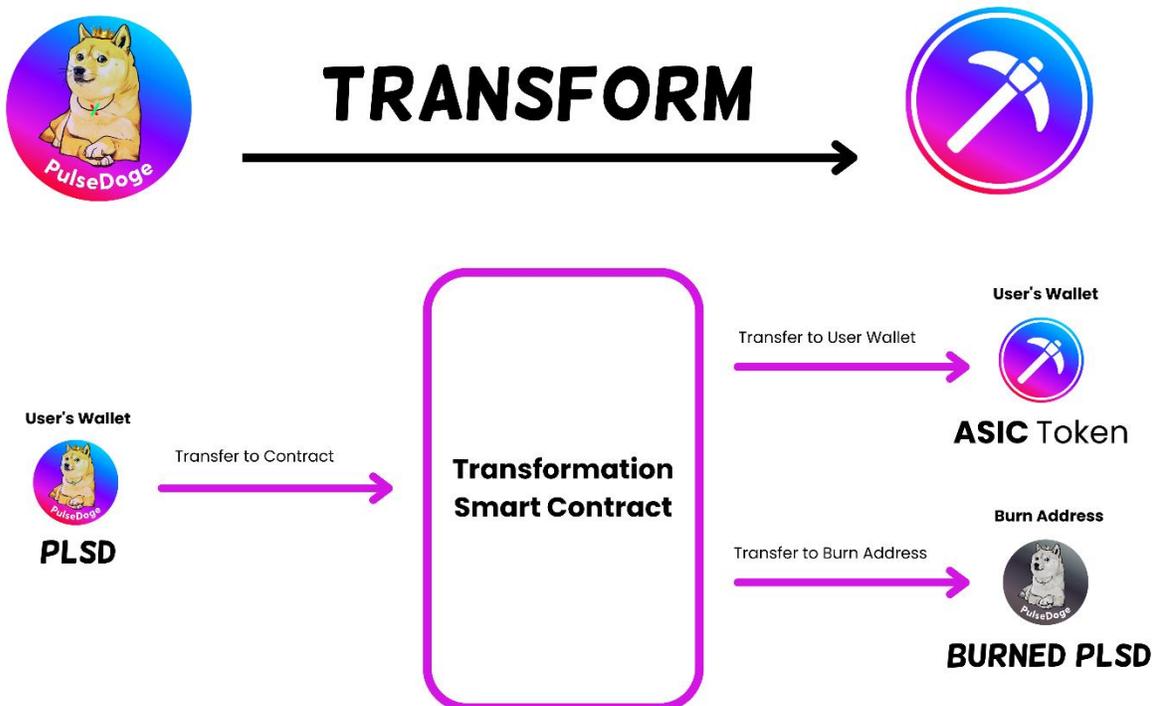
- **Halving 0:** 1 Point = 1 ASIC | if redeemed: **15,000 ASIC**  
...or wait till...
- **Halving 1:** 1 Point = 2 ASIC | if redeemed: **30,000 ASIC**  
...or wait till...
- **Halving 2:** 1 Point = 3 ASIC | if redeemed: **45,000 ASIC**  
...or wait till...
- **Halving 32:** 1 Point = 33 ASIC | if redeemed: **495,000 ASIC**

## 2. Transformation (PLSD -> ASIC) – First 60 days

### Details

“Transforming” is the process of converting PulseDogecoin (PLSD) into Application Specific Internet Coin (ASIC). During this process, PLSD is removed from a user’s wallet and replaced with ASIC. The PLSD is sent to the Ethereum “burn address” thus effectively taking it out of circulation forever. The amount of ASIC Token(s) received is dependent upon how many PLSD you submit for transformation.

For every 1 PLSD, a user will receive 5 ASIC Tokens (1 PLSD = 5 ASIC). This process is only available during the first 60 days of launch. Keep in mind, since PulseDogecoin (PLSD) has such a limited, hard capped supply of 6,094,659 PLSD there can only ever be a theoretical maximum of 30,473,295 ASIC Tokens created through the transformation process, if, and only if, all PLSD holders transform their PLSD into ASIC within the first 60 days.



## **Mining Details**

Mining PulseBitcoin (PLSB) is the process of locking up 1 or more ASIC Token(s), called "Miners" for 30-day intervals. This can be done through a PulseBitcoin (PLSB) mining site such as: *PulseBitcoin.app*. From here you can select how much ASIC you want to mine PulseBitcoin with!

To start a miner, a user only needs to submit an amount of ASIC Token(s) greater than 1 to the mining functionality portion of the PulseBitcoin smart contract. Once The ASIC has been submitted properly it is now "hard-locked" for the following 30 days.

During this time, a user cannot withdrawal their ASIC Token(s) or mint their PulseBitcoin reward until at least the 30-day mining period is completed.

Once the 30-day mining period is complete (user waited 30 days), the user then has the following 30 days to end the miner (click "end miner" button), which performs the operation of closing out the miner, and minting both the user's deposited ASIC Token(s), minus the mining fee (paid in ASIC) and the mining reward: PulseBitcoin.

## **Penalty Details**

There is a single rule that must be followed when mining PulseBitcoin (PLSB).

If a user fails to end their mining operation during the 30 day "end mining period" (61 days from initial mining start) they will forfeit their PulseBitcoin reward and lose half of their ASIC Token(s) used for that specific mining operation.

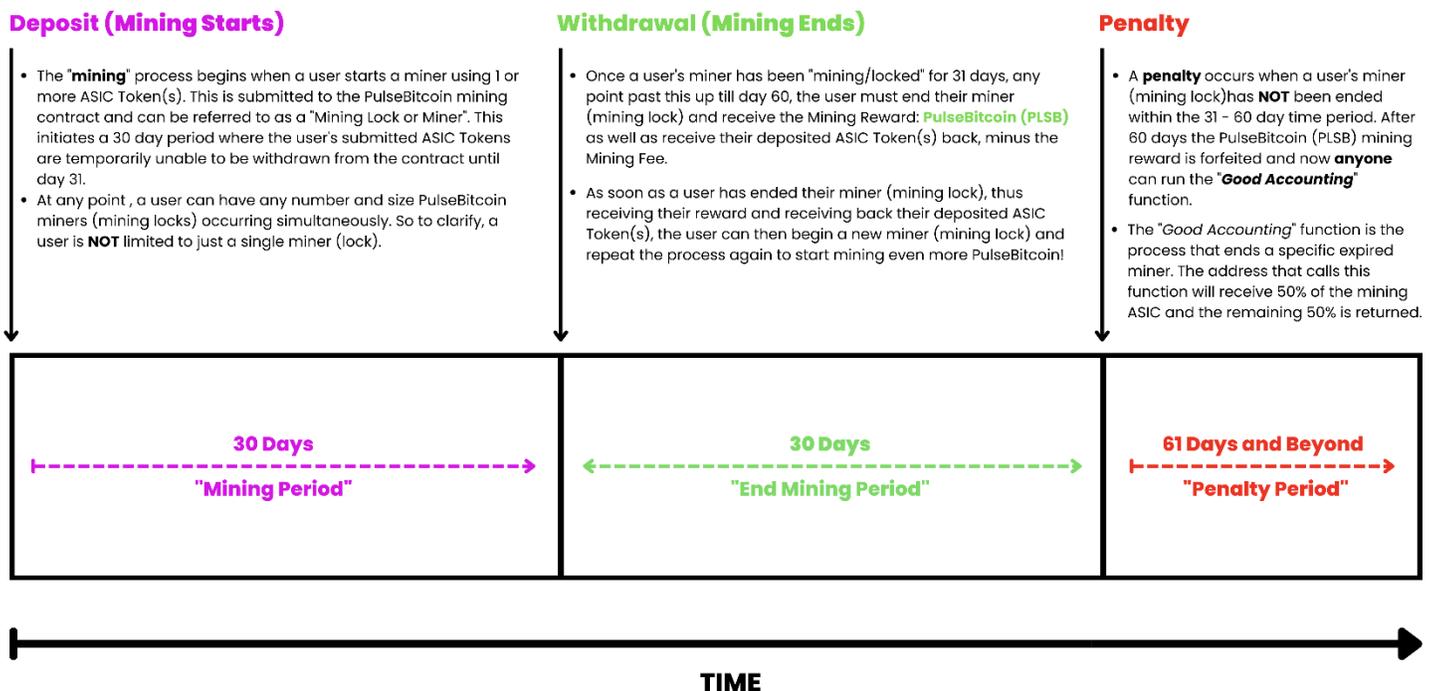
After a miner has "expired" anyone in the world can run the "Good Accounting" function, which will end a specific expired mining operation. This "clean up" function will remove those ASIC Token(s) from the PulseBitcoin Smart Contract, reward the caller of the good accounting function with half of that ASIC, send the remaining half to the original address that started the mining operation, and burn the PulseBitcoin (PLSB) reward.

To clarify, 3 things occur when the Good Accounting function is called for an expired miner(s):

- First, 50% of the ASIC Token(s) locked for that specific mining operation will be sent to the address that ran the good accounting function as a bounty reward.
- Second, the remaining 50% of the ASIC Token(s) will be sent back to the address that initially began the mining operation.
- Third, the PulseBitcoin reward that was earned by that miner is then forwarded to the Ethereum burn address, thus, taking it out of circulation forever.

### Mining Process Timeline

Included below is the PulseBitcoin mining process timeline:



## **PulseBitcoin**

PulseBitcoin (PLSB) must be mined into existence. Each mining operation takes 30 days to complete, meaning, for the first 30 days post launch, there is no supply of PLSB in circulation. The rate of growth is dependent on the amount of ASIC Tokens used to mine PulseBitcoin until the hard coded threshold of 21,000,000 PulseBitcoin is reached.

PulseBitcoin is designed to be a superior Digital Gold, Store-of-Value, Peer-to-Peer Currency[8], Unstoppable Money, etc. This is Bitcoin's version 2.0, a better Bitcoin for the future.

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