TeraHash Whitepaper

October 2025

Abstract

This whitepaper provides an overview of the TeraHash protocol: a Web3 hashrate staking protocol built to democratize access to Bitcoin-based yield, making institutional-grade rewards available to both individual and professional participants by removing infrastructure barriers and operational complexity.

TeraHash aims to reshape DeFi by introducing a new class of hashrate-backed high-yield primitive. The protocol bridges real-world hashrate with on-chain accessibility, offering DeFi users the ability to earn BTC-denominated rewards by staking $THS, a transferable token representing live hashrate.

TeraHash positions itself at the intersection of real-world infrastructure and on-chain finance protocol, bringing scalable, institutional-grade BTC yield to the broader Web3 ecosystem.

The TeraHash protocol operates with two tokens:

- **$THS** represents 1 TH/s of tokenized hashrate and gives users access to BTC mining rewards through staking.
- **$HASH** is the protocol's utility and incentive token — used to boost rewards, unlock discounts, and participate in governance.

Content

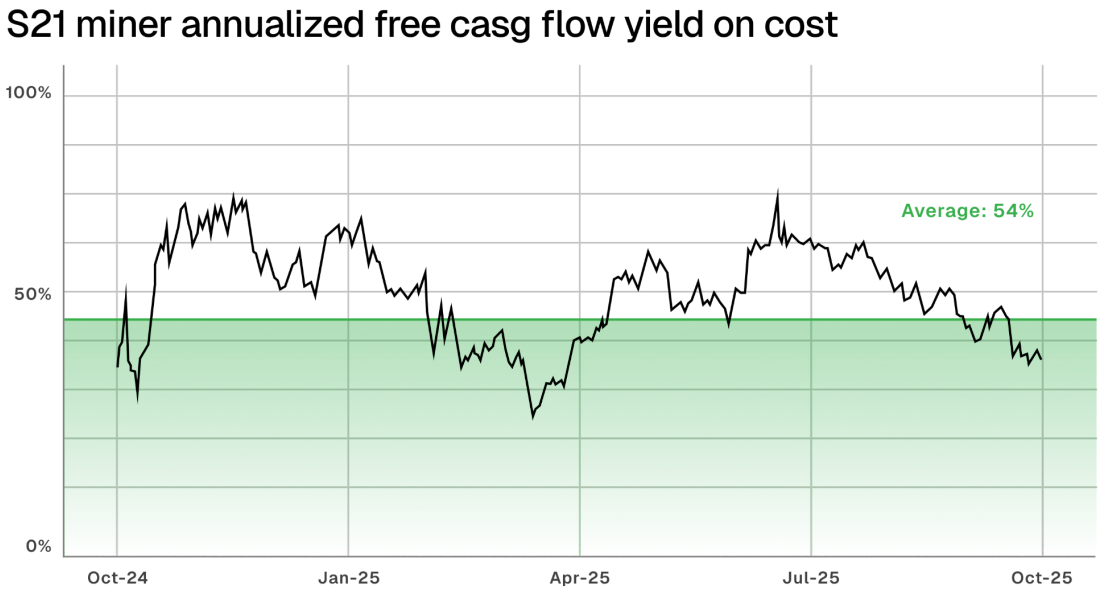
1. Introduction

Bitcoin Economy Delivers Some of the Highest Real Yields in Crypto

The Bitcoin blockchain has processed over 1.25 billion transactions[1] to date. Its security and transaction validation are built a top a decentralized compute process that rewards participants with newly issued BTC and user-paid fees which together make up the "Block Reward". The total Bitcoin supply is capped at 21 million, with approximately 19.9 million already in circulation. The remaining ~1.1 million BTC are expected to be gradually released[2] over the next 120 years.

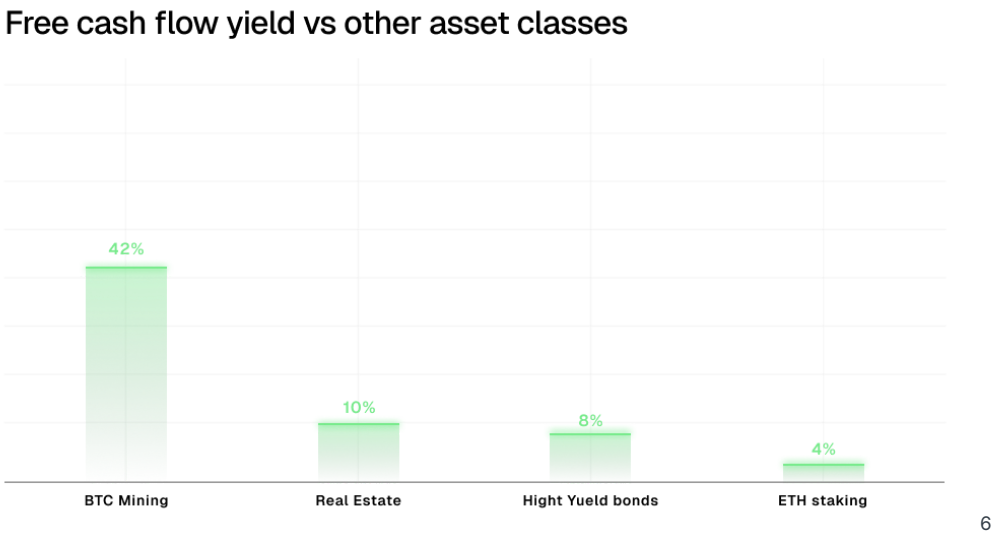
Entities compete to receive, or "mine," BTC. As of 2025, each block generates 3.125 BTC in coinbase rewards known as the "Block Subsidy", with an average of 144 blocks produced daily, resulting in approximately $50 million in daily value distribution[3]. This high level of economic output continues to attract participants, increasing network competition and difficulty (measured in TeraHashes, TH/s). Despite broader crypto market volatility, infrastructure-level BTC rewards have remained consistently profitable. For example, the S21 rig[4] has delivered an average annualized yield of 46% since April 2024.

[1] Bitcoin Total Transaction by Blockchain.com
[2] Total Circulating Bitcoin by Blockchain.com
[3] Daily miners reward = minutes per day / minutes for creating 1 block * BTCreward for 1 block * BTC price, $48M = 24 hour * 60 min / 10 min * 3.17 BTC * $0.105M
[4] A high-performance machine with powerful ASIC chip designed for cryptocurrency mining



[5]

Additionally, mining has proven to be up to 11x more profitable than traditional or other crypto investment instruments:



[6]

[5] Free Cash Flow represents mining revenue less electricity cost. Assumes miner efficiency of 17.5 J/TH, hardware cost of $17 per TH, and electricity rate of $0.07 per kWh. Annualized FCF yield is calculated as (daily gross profit x 365) ÷ miner cost .
Source: hashrateindex.com, bitmain.com, TeraHash internal financial model. Data as of Q2 2025
[6] Assumes average FCF Yield for the trailing twelve months ending April 2025.
Source: blocknative.com, novelinvestor.com

The Industry is Dominated by Professional Players

However, capturing meaningful BTC yield requires deep operational expertise and access to economies of scale. Most individual participants lack the experience, resources, and market leverage to fully optimize returns. Key challenges typically include:

1. **Hardware:**
    a. **Access to Equipment:** Difficulty sourcing reliable, enterprise-grade hardware at competitive prices.
    b. **Capital Requirements:** High upfront costs, often 2–3x higher for non-institutional participants due to lack of scale.
    c. **Technical Complexity:** Need for specialized knowledge to deploy, configure, and operate infrastructure.
    d. **Security Risks:** Exposure to fraud, theft, and lack of operational oversight.
    e. **Maintenance & Downtime:** Limited ability to manage repairs, often resulting in 10–20% efficiency losses due to suboptimal operations.
2. **Costs and Profitability:**
    a. **Energy Costs:** Non-institutional participants often face 50–150% higher electricity rates due to lack of scale and direct contracts.
    b. **Operational Inefficiency:** Limited expertise leads to suboptimal management, lower uptime, and reduced yield.
    c. **Procurement Delays:** Equipment delivery can take 3–4x longer compared to institutional buyers with direct supply access.
    d. **Capital Barriers:** Significant upfront investment is required for hardware, infrastructure, and hosting commitments.

The following table illustrates these differences in key metrics between professional and individual participants under a hypothetical scenario:

Hypothetical scenario	Professional	Individual
BTC Price	$95,000	$95,000
Network Hash Rate (EHs)	900	900
Hosting Cost	$0.07	$0.09
Uptime	98%	95%

Daily Revenue (per THs)	$0.05	$0.05
Daily Cost (S21 Class Of Equipment Per THs)	$0.03	$0.04
Daily Profit (Per THs)	$0.02	$0.01
Cost of Miner (Per THs)	$17	$22
Annualized Yield On Investment	42%	16.5%

Table 1. Difference between Professional and Individual participants

As a result, the BTC based economy remains largely concentrated among institutional players who benefit from low-cost operations and economies of scale. They leverage direct access to favorable electricity pricing, optimized hardware procurement, and the operational expertise required to run high-efficiency compute environments.

2. Protocol Overview

Objectives

By leveraging the TeraHash protocol, participants gain access to a range of benefits:

1. **No Setup Required:** Token stakers gain exposure to BTC yield through high-efficiency infrastructure and enterprise-grade pricing — all in just a few clicks, with no hardware, logistics, or friction.
2. **Real-Time Yield Activation:** Mining rewards begin immediately upon staking, with transparent on-chain tracking, daily allocation, and settlement.
3. **Low Entry Barrier:** Start with as little as $1, making institutional-grade BTC yield accessible to any portfolio size.
4. **24/7 Liquidity:** $THS and $HASH are tradable on both centralized and decentralized exchanges, enabling flexible entry and exit at any time, with minimal slippage thanks to deep liquidity driven by broad adoption and protocol-level integrations.
5. **Simplified BTC Exposure:** Participate in the Bitcoin economy without managing wallets, custody, or infrastructure — fully on-chain and compliant.

Investor Profiles

The TeraHash protocol introduces a new high-yield asset class — designed to serve a broad range of investor profiles, from individuals to institutions:

1. **Family Offices and Funds:**
    a. **Secure Yield Exposure:** TeraHash provides a compliant, infrastructure-backed path to BTC-based returns — without operational overhead.
    b. **Portfolio Diversification:** Offers a stable, yield-generating asset class uncorrelated with traditional markets or speculative crypto assets.
2. **Retail Investors:**
    a. **Accessible Yield Exposure:** Easily allocate capital into real BTC-based yield — without hardware, lockups, or technical barriers.

   b. **Flexible Participation:** Enter and exit positions at any time, with full liquidity and no minimum duration requirements.
3. **Crypto Companies:**
   a. **Product Innovation:** Leverage TeraHash to build yield-powered features and unlock new utility for users.
   b. **Expanded Offerings:** Integrate infrastructure-backed BTC yield into wallets, vaults, structured products, or DeFi protocols.

Functionality

At the core of the TeraHash protocol is a robust feature set designed to give users flexible, seamless access to real BTC-based yield. Key components include:

- **THS Minting:** Users can mint $THS to receive tokenized hashrate, which can be staked to start earning BTC-based rewards instantly.
- **Oracle Validation:** Independent oracles verify the real-time availability of deployed hashrate and validate $THS issuance, ensuring that each token is fully backed by productive mining power.
- **Yield Dashboard:** A user-friendly interface to monitor reward flow, track performance metrics, and manage positions — all in one place.
- **Knowledge Layer:** Educational resources help users understand the mechanics behind tokenized yield and make informed allocation decisions.

Mechanism of Operation

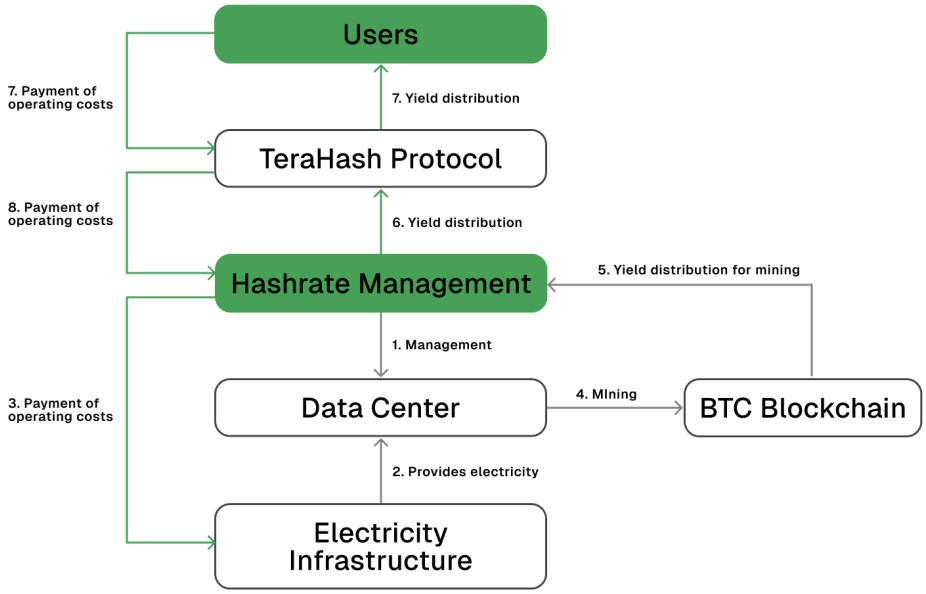
The TeraHash protocol is built on multi-layered architecture that integrates infrastructure-backed assets (IBA) to deliver efficient, transparent access to BTC-based yield. The following table outlines the core layers and functional components of this system:

Layer	Functionality block	Function
Real World	Electricity Infrastructure	Provides necessary power and cooling systems for the mining hardware
	Hashrate	Represents the computational power of physical mining machines; used as a proxy for real-world hashrate.

	Hashrate Hosting	Manages mining operations, including setup, maintenance, and monitoring
	Legal/business structure	Provides security to investors, as the protocol tokenizes real existing assets
Blockchain	Hashrate staking protocol	Facilitates tokenization of hash rate for public access
	Web3 Interface	Manages payouts, transaction fees, and profitability analysis

Table 2. Key Layers and Functionality Blocks within Operational Mechanism

The protocol ensures operational efficiency, full transparency, and a robust financial layer for real-time tracking of performance and staking reward distribution. The diagram below illustrates the relationships between key participants and system components:



A detailed description of the rewards distribution is presented in the THS Tokenomics and HASH Tokenomics chapters.

Structural Comparison: TeraHash vs. Cloud Mining

TeraHash provides DeFi native access to infrastructure-backed BTC yield that, while superficially similar to cloud-based mining models, is fundamentally different in its design. Built as a DeFi-native protocol, TeraHash overcomes key limitations of traditional cloud mining.

Cloud Mining: Traditional Model

- **Off-Chain Contracts:** Relies on rental agreements that exist off-chain, resulting in limited transparency.
- **Fixed Terms:** Users are bound to predetermined lease periods without flexibility.
- **No Secondary Market:** There is typically no way to trade or exit positions before contract expiry.

TeraHash: DeFi-Native Innovation

- **Tokenized Hashrate:** Introduces $THS, a token representing real, productive hashrate.
- **Perpetual BTC Exposure:** Offers ongoing, indefinite access to BTC-based rewards.
- **Full Liquidity:** Enables trading and transfer of positions at any time.
- **On-Chain Composability:** $THS integrates with the broader DeFi ecosystem.

Yield Ecosystem Opportunities

- **For Users:** Stake or boost rewards by managing staking strategies and adjusting boost power.

- **For Developers:** Build new products using $THS as collateral—in vaults, structured products, and CDPs.
- **New Layers:** Enabling stablecoins, leveraged yield, and lending markets on top of this liquid asset.

Fundamental Architectural Differences

- **Not Just Renting Hashrate:** TeraHash transforms hashrate into programmable capital, overcoming cloud mining's structural limitations.

TeraHash resolves Cloud mining risks and inefficiencies

Transparency

- **Cloud mining:** Generally unstable with opaque custodial services, often with poor risk management or even fraud.
- **TeraHash:** Decentralized and governed by smart contracts, ensuring transparency, immutability, and user control.

Flexibility and clarity

- **Cloud Mining:** Requires fixed-term lease payments with unclear recovery timelines.
- **TeraHash:** Users mint $THS once and retain ownership indefinitely, with flexibility to stake, unstake, or exit at any time.

Inefficient Yield Distribution

- **Cloud mining:** Involves multiple intermediaries, reducing user returns.
- **TeraHash:** Rewards are sent directly to token holders, prioritizing users.

Limited Earning Periods

- **Cloud mining:** Income ceases at lease expiry.
- **TeraHash:** Rewards continue for as long as the asset is held and staked, converting hashrate into a perpetually yielding primitive.

Security

TeraHash recognizes the importance of safe use of crypto platforms and strives to give users confidence when using the platform. Within the ecosystem, the Protocol implements the following measures:

- **Use of smart contracts:** In contrast to centralized services such as cloud mining, the tokenized mining protocol works based on the use of smart contracts. Utilizing smart contracts enhances user security through decentralization, transparency, immutability, automation, and funds protection on the blockchain.
- **Regular security audits:** Regular security audits help identify and address potential vulnerabilities in the system, ensuring a high level of protection for user funds.

Security is a foundational priority for TeraHash — not a one-time checkbox. In addition to internal audits, the protocol undergoes continuous monitoring and implements strict operational security practices. This includes risk modeling, permissioned access control, off-chain security procedures, and third-party reviews to ensure resilience against evolving threats.

2. Ecosystem

Ecosystem Growth Around the Bitcoin Yield Layer

TeraHash is a foundation for a new class of composable, modular financial products built on top of tokenized hashrate. The protocol enables deep integration with DeFi primitives, unlocks novel on-chain strategies, and expands the utility of THS — including collateral frameworks, staking layers, vaults, and structured strategy platforms. As the ecosystem evolves, new use cases will emerge across lending, stablecoins, derivatives, credit markets, and structured products — transforming THS into a core on-chain asset within the Bitcoin yield layer.

Below are anticipated expansion areas for the ecosystem:

- **Lending & Collateralization:** Deploy $THS as collateral within supported DeFi platforms to access borrowing opportunities — or participate in liquidity pools where rewards depend on protocol mechanics and market conditions.
- **Programmable Yield Vaults:** Explore flexible DeFi use cases by converting $THS-linked value streams into programmable assets. These tokenized positions can be used in various strategy layers depending on user preferences and risk appetite.
- **Stablecoin Frameworks:** Engage with decentralized stablecoin systems that utilize $THS as part of their backing mechanisms — offering additional liquidity options while preserving on-chain mining exposure.
- **Mining Risk Mitigation:** Access community-driven mechanisms designed to reduce operational mining risks, including protection from hardware-related losses or volatility — tailored for retail participants.
- **$THS Liquid Staking:** Stake $THS to receive a transferable token that maintains protocol participation benefits while enabling additional use across DeFi layers. Final yield depends on staking dynamics and external integrations.
- **BTC-Backed Credit:** Use BTC as collateral to access $THS-denominated liquidity — enabling capital efficiency without liquidating long-term holdings.
- **Liquidity Initiatives:** Collaborate with ecosystem partners and liquidity providers to support $THS on both spot and derivatives platforms, improving access and trading depth.

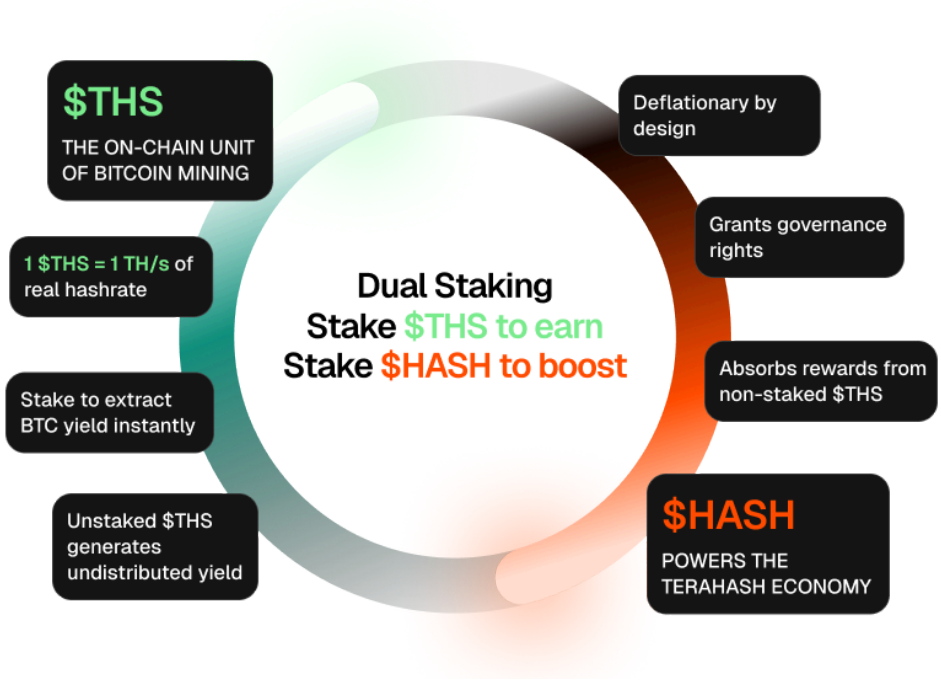
- **Modular Ecosystem Tools:** Discover a growing suite of products built around Liquid Bitcoin Products — including deployment tools, UX frameworks, and operational modules for greater efficiency and transparency.

By building around tokenized hashrate and enabling a wide range of integrations, TeraHash is strategically focused on driving token adoption and establishing deep, sustainable liquidity for THS across the crypto market.

3. Tokenomics

The TeraHash protocol utilizes two native tokens — $THS and $HASH:

- **$THS** represents 1 TH/s of tokenized hashrate. It provides access to wBTC-denominated yield (BTC mining rewards) through staking.
- **$HASH** is the protocol's utility and incentive token — used to boost returns, participate in governance, and support ecosystem alignment and growth.



These two tokens form a tightly integrated value system within the TeraHash ecosystem. $THS provides passive exposure to BTC-based mining rewards, while $HASH enables users to boost those rewards, participate in governance, and unlock additional protocol incentives. Together, they create a symbiotic token economy — combining capital efficiency with active engagement.

THS Tokenomics

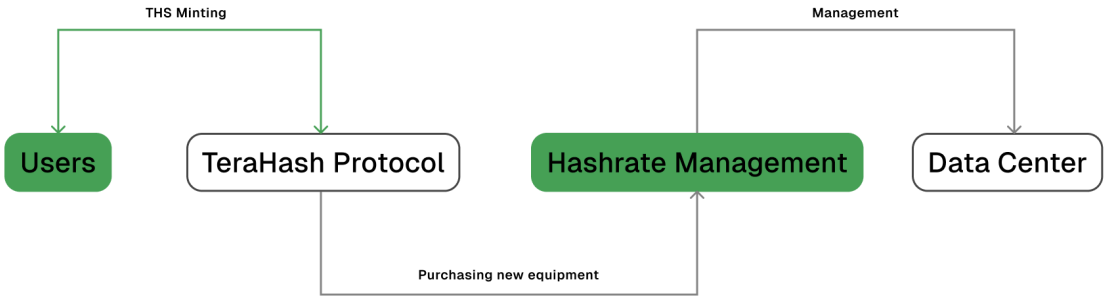
$THS is a tokenized representation of 1 TH/s of active hashrate. It is minted on demand at a protocol-defined price, reflecting the real-time cost of infrastructure. Token supply is dynamic and expands with user demand — each $THS minted corresponds to verifiable, yield-generating capacity.

As a result, $THS issuance is not technically capped at the smart contract level and can scale with infrastructure availability. At the same time, the protocol may reduce total supply via a burn mechanism in cases where the underlying hashrate associated with previously minted $THS becomes unavailable or degraded.

Utility

Contribution to Operational Activities

$THS is directly tied to active infrastructure capacity and serves as the basis for accessing and distributing BTC-based rewards. Each token represents a claim on real-world compute output, aligning token total supply with the protocol's operational performance.



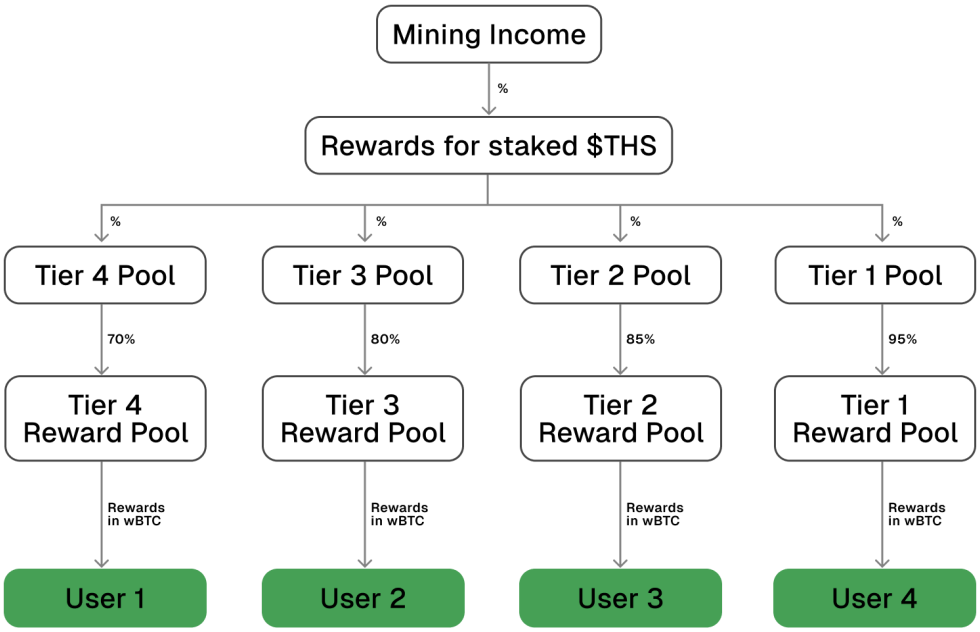
Hashrate Staking

By staking $THS tokens, users receive daily mining rewards in wBTC. Yield is distributed continuously based on protocol performance and becomes claimable by stakers each day. Only actively staked tokens are eligible — unstaked $THS does not accrue rewards.

THS staking is fully flexible — users can unstake at any time. Additionally, all tokens are automatically unstaked at the end of each epoch. Epochs are protocol-defined timeframes that act as synchronization points for various internal procedures — such as automated unstaking, state updates, and infrastructure-aligned verifications. These timeframes are subject to change as the protocol evolves. To continue earning rewards, users must restake manually after each epoch.

This mechanism is designed to prioritize active participants and incentivize ongoing engagement with the protocol. The diagram below illustrates the

structure of the THS staking process and reward distribution:



Stakers can allocate their $THS into one of four available tiers, each defined by specific staking thresholds and eligibility criteria. Tiers, which require larger commitments, benefit from more favorable participation terms in reward distribution. In lower tiers, a greater portion of rewards is redirected into protocol-level mechanisms, while higher-tier participants retain a larger effective share of wBTC rewards. This tier structure encourages deeper engagement and sustained participation:

	Tier 1	Tier 2	Tier 3	Tier 4
The required number of THS are staked	1 - 300	300 - 6000	6000 - 45,500	45,500+
Proportion of Rewards Retained by Stakers	70%	80%	85%	95%

Table 4. THS Staking Tiers Parameters

Tier thresholds and reward allocation ratios are subject to change and may be adjusted as needed to optimize protocol performance, adapt to market conditions, and support long-term tokenomics.

The base user reward is calculated daily, based on the amount of THS tokens actively staked by the wallet, and follows the formula below:

$$Staker's\ reward\ per\ day\ =\ Base\ reward\ per\ THS\ \ per\ day\ \times Staked\ THS\ amount\ \times Tier_k$$

Where:

- Base reward per THS per day — the protocol-level reward allocated for 1 THS on a given day, after deducting hashrate staking operational expenses; denominated in wBTC.
- Staked THS amount — the amount of THS staked by the wallet at the end of the previous day.
- $Tier_k$ — the reward coefficient applied to each tier based on the user's staked volume.

Below is an example of how rewards are calculated for a user participating in the staking program:

- Let's say a user, John, holds 10,000 $THS. He chooses to stake 7,000 $THS, which places him in the Advanced Tier (6,000–45,500 $THS).
- Base reward per 1 THS for the previous day: 0.00002329 BTC.
- Advanced tier retention coefficient: 85%.
- Net daily reward = 7,000 × 2,329 × 0.85 = 0.0001385 BTC, available for claiming in wBTC on the following day.

Staking profitability can be boosted by staking HASH, more about this in the Dual Staking Chapter.

HASH Tokenomics

$HASH serves as a core component of the TeraHash reward architecture. Through dual staking (see below, users can allocate $HASH alongside $THS to unlock enhanced reward rates, thereby increasing protocol-level demand for $HASH. In addition to reward amplification, $HASH plays a role in value accrual via daily token burns and integration into key incentive flows. Beyond its utility in the yield system, $HASH also functions as the protocol's governance token — enabling holders to participate in decision-making processes related to protocol upgrades, and parameter adjustments. The exact scope of governance influence will be defined closer to the DAO launch, ensuring a balanced approach between community input and protocol stability.

The design ensures that $HASH operates not only as a utility asset but also as a dynamic modifier of user returns and a coordination mechanism for protocol evolution. All these utilities are ultimately fueled by $HASH's share in protocol mining rewards — both via its allocation from the rewards chain and by capturing yield from unstaked $THS.

Allocation, Lockup, Vesting

The total supply of $HASH is capped at 21 million tokens.

To ensure long-term sustainability and protocol growth, $HASH is allocated across key areas such as development, liquidity, community incentives, and ecosystem expansion. This structured distribution is designed to foster active participation while maintaining economic stability.

Below is the planned allocation breakdown, including lockup and vesting schedules:

Entity	Allocation, %	Allocation, tokens	Unlock at TGE, %	Lockup period, mo*	Vesting period, mo
Seed Round	10.00%	2.100M	10.00%	9	18
Strategic Early Access	10.00%	2.100M	10.00%	3	12

Public	14.00%	2.940M	10.00%	3	9
Team***	10.00%	2.100M	-	12	24
Advisors***	3.50%	735K	5.00%	12	12
KOL's	3.00%	630K	10.00%	2	9
Community Incentives	12.50%	2.625M	-	-	48
Stability and buyback reserve	10.00%	2.100M	-	12	36
DAO|ecosystem growth	10.00%	2.100M	-	3	48
Strategic growth reserve	9.00%	1.890M	10%	-	24
Liquidity MM**	8.00%	1.680M	100.00%	-	-
Total	**100.00%**	**21.00M**	**12.78%**		

Table 5. HASH Token Allocations, Unlock at TGE, Lockups, and Vesting

* Lockup periods are separate from vesting schedules — tokens unlock only after both the lockup and vesting durations have been completed.

** Liquidity tokens will be used to bootstrap initial market liquidity and support incentive programs.

*** Team allocation is designed to incentivize long-term contributions from core contributors, advisors, and strategic partners.

Utility

$HASH is a core growth instrument for the TeraHash ecosystem. It is designed as both a governance token and a loyalty-linked utility token, aligning long-term protocol participation with meaningful incentives.

- As a governance asset, $HASH enables holders to vote on key protocol parameters and upgrades.
- As a loyalty mechanism, $HASH embeds a powerful boost structure that rewards $THS stakers for holding and locking $HASH. This creates sustained demand from users seeking to maximize the yield on their entire position — across both $THS and $HASH — and directly ties protocol incentives to ecosystem growth.

To incentivize long-term holders and active contributors, the protocol has established a dedicated $HASH Rewards Pool — the HASH Fund.

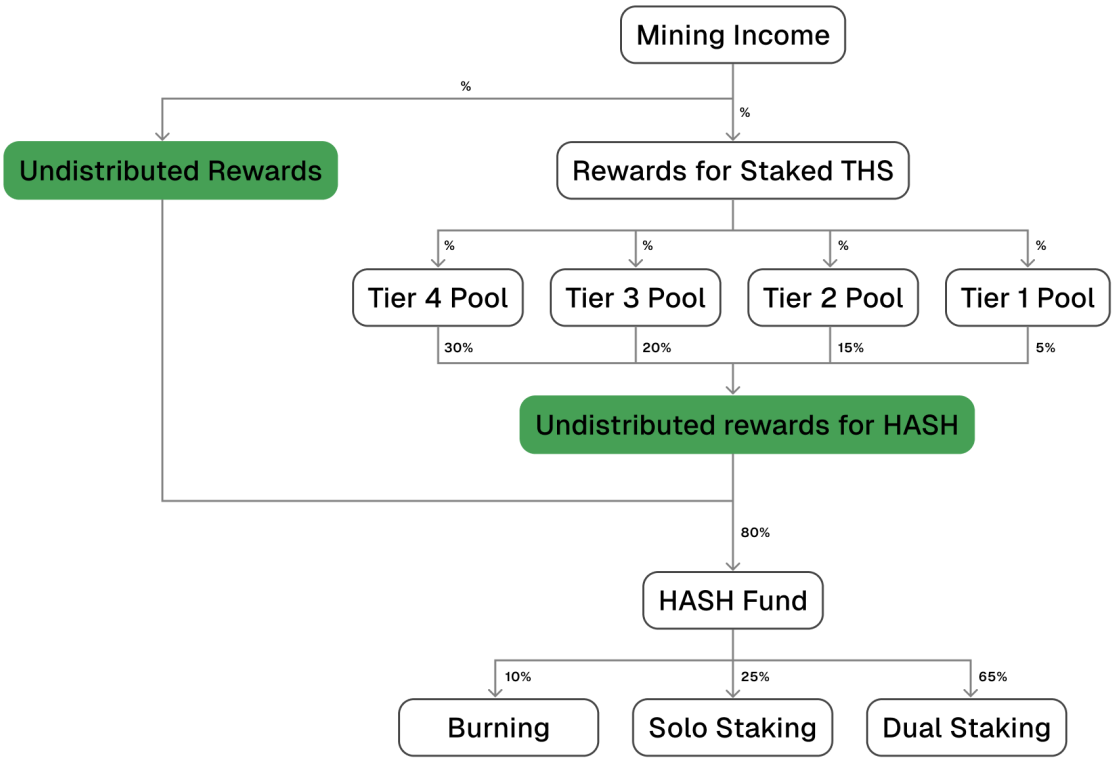
This fund will be formed by buying back $HASH tokens on the open market using 80% of unallocated rewards. These rewards originate from two sources:

1. unstaked $THS that is not eligible for reward distribution (only staked $THS earn staking rewards, whereas all $THS generate hashrate returns), and
2. tier-level retention.

The remaining 20% of unallocated rewards is directed to the protocol treasury. These funds may be used at the discretion of the protocol for future development, infrastructure sustainability, or other treasury-managed initiatives aligned with long-term objectives.

The acquired $HASH tokens are accumulated into the HASH Fund and used for three purposes:

- reducing token supply via burning (10%),
- distributing rewards to participants in solo staking (25%),
- distributing rewards to participants in dual staking (65%).



Dual Staking: Boosting Yield with $HASH power

$HASH tokens can be staked in parallel with $THS to significantly enhance reward potential. The protocol uses the same four-tier system as $THS staking, and allocates a portion of overall rewards specifically for $HASH-based boosts.

Key mechanics:

- To activate the boost, users must stake $HASH in proportion to their $THS — typically 10–20% of the $THS value, depending on the chosen lock-up period.
- Maintaining the required ratio unlocks access to additional protocol rewards, amplifying total yield.
- There are no upper limits on the $HASH stake, and users can choose from three staking durations (3, 6, or 12 months), each offering different boost multipliers.

Maintaining the correct $HASH:$THS ratio is essential for maximizing bonus rewards and overall capital efficiency.

$HASH tokens offer a compelling opportunity for users to enhance their BTC-based yield through a dual staking mechanism alongside $THS. This model unlocks additional rewards while deepening participation in a capital-efficient, incentive-aligned ecosystem. Dual staking not only increases individual returns — it reinforces long-term alignment between users and protocol growth.

Staking Durations for $HASH Boosts

The $HASH staking program offers full flexibility — there are no upper limits on the amount staked, allowing users to scale their participation based on individual goals and risk preferences. To activate dual staking boosts, users choose one of three commitment durations, each with a different minimum ratio of $HASH to $THS:

- **3 Months THS staking boost:** Requires at least 20% $HASH relative to $THS. Ideal for users seeking faster returns and greater liquidity.
- **6 Months THS staking boost:** Requires at least 16% $HASH relative to $THS. Balanced option for medium-term strategies.
- **12 Months THS staking boost:** Requires at least 10% $HASH relative to $THS. Best suited for long-term holders focused on maximizing protocol incentives.

This tiered structure allows participants to optimize yield according to their investment horizon and protocol commitment level. Thus, dual staking creates strong organic demand for $HASH from $THS stakers, who gain a unique opportunity to increase their total rewards and enhance the effective APY across their entire position — including both $THS and $HASH. This design tightly couples protocol participation with utility-driven token demand.

Tiered Reward Structure

The portion of the HASH Fund allocated to dual staking rewards is distributed across the four staking tiers based on the proportions specified in the table below. This means that each tier pool — defined by the amount of $THS staked — receives a fixed percentage of the dual staking reward allocation (e.g., 30% to Entry Tier, 20% to Retail Tier, etc.). Within each tier pool, rewards are further

distributed proportionally to each user's $THS stake, assuming the required $HASH boost is met. This two-step allocation ensures a clear and predictable reward structure: first across tiers, then within tiers.

	Tier 4	Tier 3	Tier 2	Tier 1
The required number of THS are staked	1 - 300	300 - 6000	6000 - 45,500	45,500+
Distribution of Reward Pool	30%	20%	20%	30%

Table 6. HASH Dual Staking Tiers Parameters

The current allocation structure reflects the best option based on internal modeling and simulations. These allocations may be adjusted over time to improve tokenomics and respond to evolving market conditions.

In dual staking, additional rewards are calculated based on the portion of the user's $THS stake to which Boost Power is applied, not the amount of $HASH. $HASH acts as a boosting mechanism, unlocking higher yield potential for a portion (or all) of the $THS stake — depending on the staked ratio and lock duration.

The boost applies only to the portion of $THS that is properly collateralized with Boost Power according to protocol-defined ratios:

$$Staker's\ HASH\ boost\ reward\ per\ day\ =\ Tier_{k}\ \times\ HASH\ boost\ pool\ daily\ income\ \times$$

$$\times\ \frac{Staker's\ effective\ boost\ amount}{Total\ effective\ boost\ in\ same\ tier}$$

Where:

- $Tier_k$ — percentage share of the boost reward pool allocated to a specific tier (1–4), as defined in Table 6.
- HASH boost pool daily income — total $HASH rewards allocated for boost distribution in a given day.
- Staker's effective boost amount — the portion of the user's $THS stake to which Boost Power is applied. This may be the full stake or only part of it, depending on how much $HASH is staked and for how long.

- Total effective boost in the same tier — the sum of all users' effective boost amounts in the same tier (calculated the same way as above).

Below is an example of how staking rewards are calculated for a user participating in the dual staking program:

- Let's say a user, John, holds 5,000 $THS and locks it into Retail Tier (range: 300–6,000 THS).
- Boost Strategy: He selects a 6-month lock period, which requires 16% $HASH relative to the dollar value of his $THS stake.
- Valuation: $THS price: $22; $HASH price: $1.
- Required $HASH: 5,000 THS × $22 × 16% / $1 = 17,600 $HASH.
- By staking this amount of $HASH alongside his $THS, John activates the boost for the full 5,000 $THS — making him eligible for additional rewards from the $HASH Boost Pool allocated to Retail Tier.
- HASH Boost Pool: Let's assume the reward pool daily income is 1,000 $HASH.
- Retail Tier Allocation: the Retail Tier pool accounts for 20% of the total boost pool. Therefore, the Retail Tier is allocated 200 $HASH (1,000 $HASH * 20%).
- John's Share: The total tokens in the Retail Tier THS pool remained at 50,000 THS during the day, with John contributing 10% of this amount (5,000 THS / 50,000 THS). As a result, John receives 10% of the Retail Tier rewards, which equates to 20 $HASH (200 $HASH * 10%).

This mechanism ensures that users who lock $HASH to boost their $THS stake are rewarded proportionally for supporting the ecosystem's long-term value flow.

Solo Staking: Flexible Rewards for $HASH Holders

For users seeking a simpler participation model, the protocol offers solo staking — allowing $HASH only stakers to earn rewards without staking $THS.

Participants in solo staking receive a share of a dedicated portion of the $HASH Fund — 25% of the total pool is allocated specifically for solo stakers. This structure lowers the entry barrier and makes the system more accessible to a wider range of users.

Unlike Dual Staking, where $HASH must be locked for a fixed period (3, 6, or 12 months) with no early unstaking, Solo Staking follows a soft-stake model — giving users the ability to unstake at any time without penalty.

The soft-stake pool model provides increased liquidity and flexibility, enabling users to adjust their positions in response to market dynamics or personal strategy.

Reward distribution is proportional to the amount of $HASH staked and occurs daily — incentivizing greater participation and long-term alignment with the ecosystem.

$$HASH\ solo\ staker's\ reward\ per\ day\ =\ HASH\ solo\ pool\ daily\ income\ \times$$

$$\times \frac{Solo\ staker's\ HASH\ amount}{Total\ solo\ staker's\ HASH\ amount}$$

Where:

- HASH solo staker's reward per day — the amount of $HASH rewards a specific user receives for a given day based on their solo-staked amount.
- HASH solo pool daily income — the daily allocation from the $HASH Fund for solo staking (25% of the total $HASH Fund).
- Solo staker's HASH amount — the amount of $HASH staked by the wallet at the end of the day.
- Total solo staker's HASH amount — the total $HASH staked by all solo stakers at the end of the day.

Below is an example of how rewards are calculated for a user participating in the solo staking program:

- Let's say a user, John, holds 4,000 $HASH and decides to participate in solo staking.
- Total Solo Staking Pool (daily income): 500 $HASH.
- Total $HASH Staked by All Users: 20,000 $HASH.
- John's Share: 4,000 / 20,000 = 20% of the pool.
- Reward Earned: 20% × 500 $HASH = 100 $HASH

Governance

The $HASH token also ensures that decisions on strategic issues are made in a democratic way and reflect the interests of token holders.

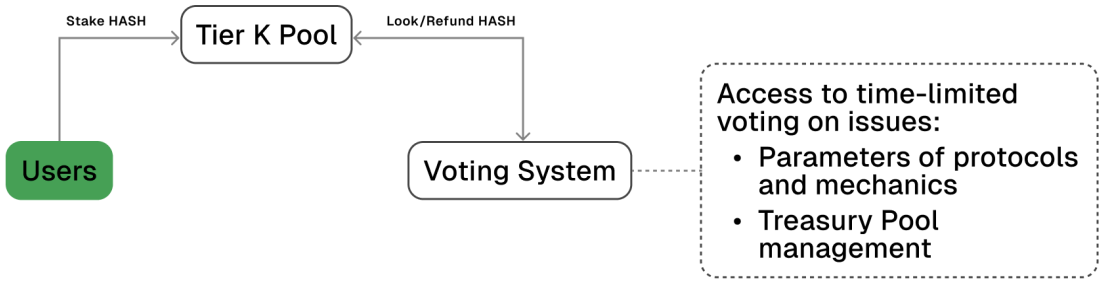
TeraHash is a dynamic protocol that evolves through structured community input, aligning platform development with long-term strategic goals while responding to user needs.

The bridge between the goals and desires of users will be the voting functionality (DAO mechanic).

Any user with $HASH tokens will be able to influence the future development of the platform. The range of issues proposed to users for voting includes:

- Parameters of protocols and mechanics.
- Treasury Pool management.

Each voting session will be time-limited. Users select the discussion that interests them and vote for one of the proposed options using their own tokens. Once a voting option is selected and confirmed, the user's tokens are locked until the voting period ends. After the voting concludes, the tokens are returned to staking pools. This does not affect staking size, current tier position and future rewards.



In this voting system, 1 token equals 1 vote. The winning option will be the one that receives the highest number of tokens.

Burning

Burning is a strategic mechanism employed by the TeraHash protocol to maintain and enhance the value of the $HASH token by reducing its total supply over time:

1. **Percentage of Net Profit Allocation:**
    a. **Percentage:** The protocol allocates 10.0% from the pool of undistributed rewards (after allocating $THS stake rewards and less a 20% protocol fees) to token burning.

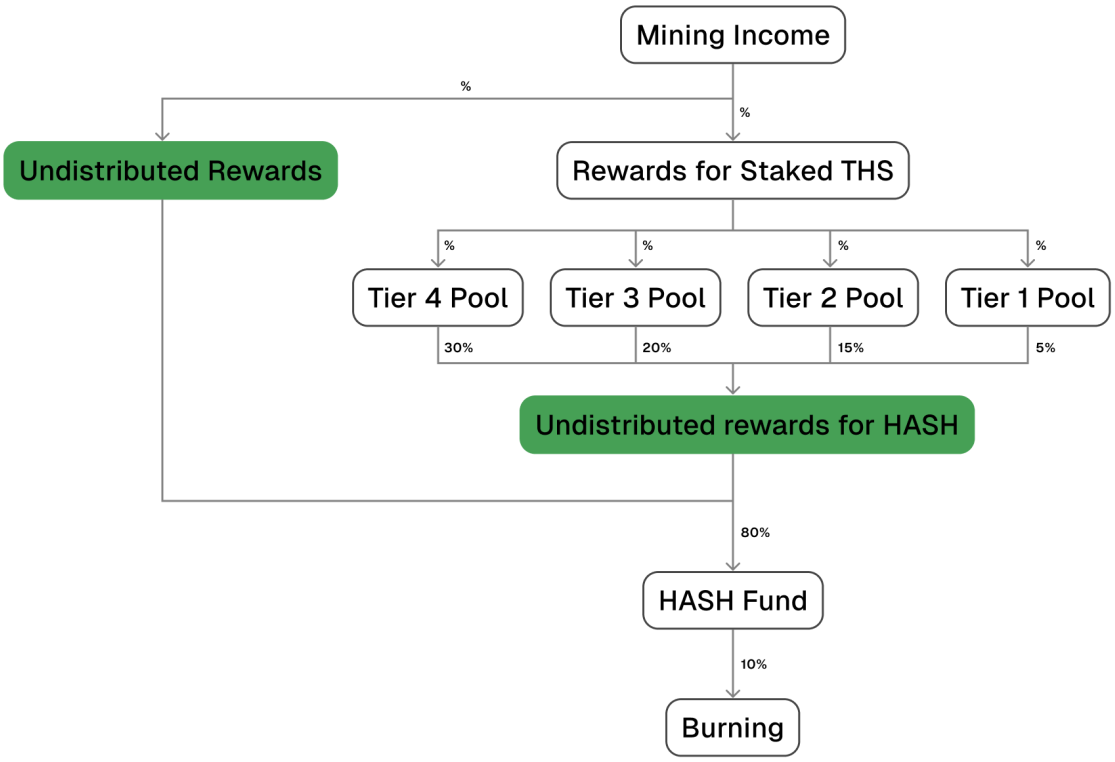
b. **Purpose:** This allocation aims to regularly reduce the circulating supply of $HASH tokens, contributing to an increase in their scarcity and, potentially, their value.

2. **Burning Regularity:**

   a. **Frequency:** Tokens are burned on an epoch basis.
   b. **Procedure:** At the end of each epoch, the platform calculates the undistributed rewards and allocates 10.0% to buy $HASH tokens from the market. These tokens are then permanently removed from circulation by sending them to a null contract address, ensuring they can never be retrieved or used again.

3. **Transparency and Reporting:**

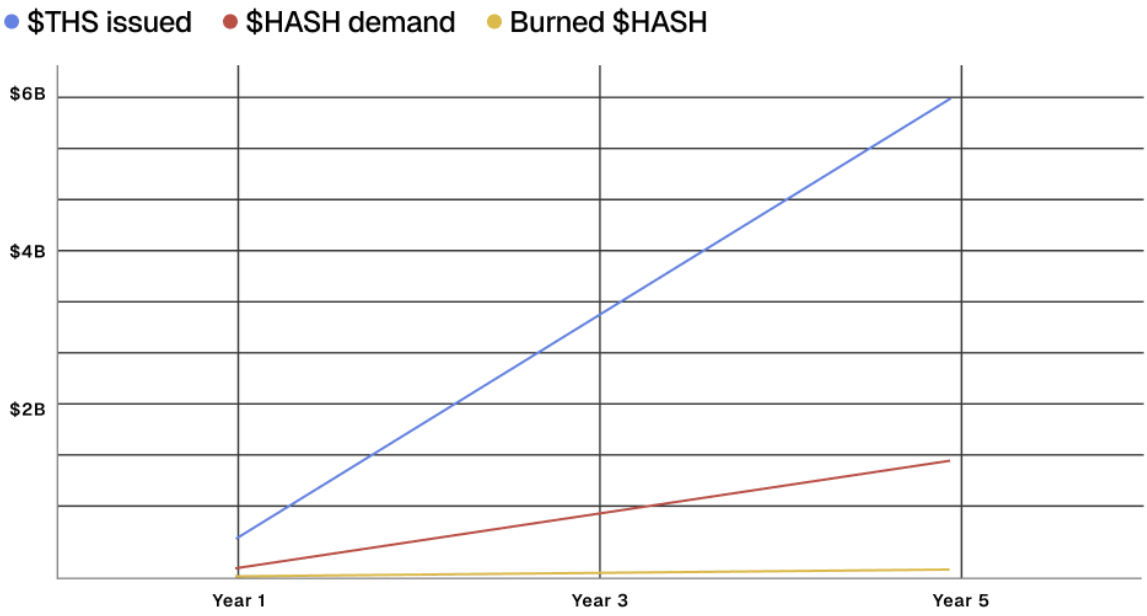
   a. **Public Announcements:** Every burning event will be publicly announced through the platform's official communication channels.
   b. **Burn Reports:** Detailed burn reports will be published after each event, outlining the number of tokens burned, the transaction details, and the updated circulating supply of $HASH tokens.



HASH Demand Projections

As the TeraHash protocol grows, the demand for $HASH will scale in tandem with the adoption and issuance of $THS. $HASH is the utility token that underpins incentive alignment across the ecosystem — from staking and governance to boosting yield and covering operational costs. Its value accrual is inherently tied to protocol usage and reward generation.

To illustrate the long-term demand trajectory for $HASH, we model the relationship between $THS issuance and $HASH utility-driven demand. This projection assumes a conservative but steady growth of $THS minted by users over a five-year horizon, based on forecasted protocol traction, and market conditions. The chart below visualizes this modeled expansion.



By Year 5, $THS issuance is expected to exceed $6 billion, with over 500 EH/s tokenized and actively deployed. In parallel, projected demand for $HASH reaches $1.2 billion, fueled by users staking for higher yield, securing governance rights, and accessing protocol fee discounts. Importantly, over $70 million worth of $HASH is anticipated to be burned during this period, contributing to a reduction in total supply and supporting token scarcity.

This forecast is built on the assumption that $HASH demand will continue to track closely with key protocol activity metrics, such as:

- Total THS staked
- Yield-boosting participation via dual staking
- Governance involvement
- HASH-based DeFi integrations

These mechanics establish a reflexive feedback loop: as more THS enters circulation and is staked for yield, more HASH is required and consumed — both for enhanced returns and protocol privileges. Meanwhile, the systematic burning of HASH reduces available supply, potentially amplifying its utility-based value over time.

Stability Reserve

To maintain the transparency of the protocol and ensure the reliable backing of the THS token, it is crucial to minimize risks associated with equipment integrity. The number of THS tokens issued must always correspond to the actual amount of available TH/s in operation. However, over time, hardware naturally degrades, which may cause this ratio to deviate from its baseline level.

To ensure long-term hardware sustainability, 5% of total protocol income is allocated from within the hashrate staking fee — a fee that covers electricity costs, hosting, equipment servicing, and other associated operational expenses — and reserved for ongoing renewal and maintenance of mining hardware. The Protocol's goal is to maintain a reserve level that allows equipment coverage within the range of 80% to 160%. If the coverage percentage falls below the established threshold, the DAO may decide to temporarily increase this allocation. This approach enables a timely response to technical risks and supports the stable operation of the protocol, while preserving transparency and participant trust.

3. Disclaimer

The information provided in this whitepaper is for general informational purposes only and does not constitute an offer to sell, or a solicitation of an offer to buy, any securities, tokens, or other financial instruments in any jurisdiction. Nothing in this document constitutes legal, tax, investment, or financial advice. This whitepaper is not intended to form the basis of, and should not be relied upon in connection with, any contract, investment decision, or other commitment whatsoever.

Tokens and Protocol Usage

The $THS and $HASH tokens are utility tokens that operate solely within the TeraHash protocol. They do not represent equity ownership, governance rights in a legal entity, or any claim to off-chain assets or profits.

Participation in staking, governance voting, or any other protocol activity does not create a partnership, agency, fiduciary, or any other similar relationship between the user and any entity associated with the protocol.

Token burning and other mechanisms are discretionary and should not be interpreted as mechanisms for price appreciation or investment return.

Risk Statement

Participation in the protocol involves significant risk, including but not limited to:

- smart contract vulnerabilities;
- market volatility;
- technical malfunctions, including data loss, corrupted wallets, and chain forks;
- malicious attacks (e.g., phishing, exploits, unauthorized access);
- reliance on third-party services and integrations;
- legal and regulatory developments and uncertainty in various jurisdictions.

Users are solely responsible for safeguarding their private keys, wallets, and interacting with the protocol through self-custody. TeraHash does not store user funds or private credentials and does not provide any custodial services.

To the maximum extent permitted, the protocol and its contributors disclaim all warranties, express or implied, including but not limited to warranties of merchantability, fitness for a particular purpose, and non-infringement.

Forward-Looking Statements

This whitepaper may contain forward-looking statements, including but not limited to projected $HASH demand, staking yields, or token issuance volumes. These statements are inherently uncertain and involve known and unknown risks, and are not guarantees of future performance. Actual outcomes may differ materially.

Jurisdictional Restrictions

Access to the protocol and participation in any token-related activity may be subject to legal restrictions in certain jurisdictions. Users are solely responsible for complying with all applicable laws and regulations.

Document Updates

This whitepaper reflects the state of the protocol as of the date on the cover. It may be updated, amended, or replaced at any time without notice. TeraHash is under no obligation to update this document or to inform users of changes to the protocol or roadmap.

By interacting with the protocol or holding $THS or $HASH tokens, users acknowledge and accept the above disclaimers and assume all associated risks.