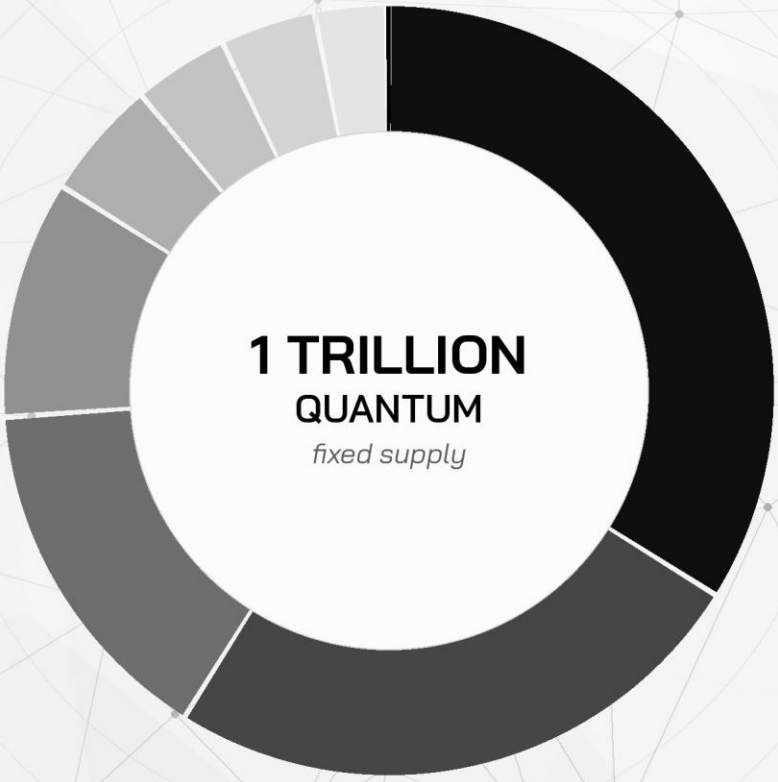
QUANTUM CHAIN

POSITION PAPER // **2026**

QUANTUM Protocol Economics and Quantum Reserve

A fixed-supply utility framework for quantum-secure institutional financial infrastructure

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ISSUED BY **QUANTUM CHAIN**



CURRENT ALLOCATION

Quantum Reserve	33.9%	Listings & liquidity	4.0%
Quantum Foundation	25.0%	Strategic partnerships & R&D	4.0%
Founding team & advisers	15.0%	Community & marketing	3.0%
Network development & incentives	10.0%	Quantum Vaults	0.1%
Reserve & contingency	5.0%		

QUANTUM CHAIN · PROTOCOL ECONOMICS

QUANTUM Protocol Economics & Quantum Reserve

1 Trillion	340 Billion	1 Billion	Proof-of-Authority
Fixed maximum supply, no new issuance	Pooled into the Quantum Reserve	For client Quantum Vaults	Approved institutional Quantum Validators

EXECUTIVE POSITION

Quantum Chain is public-permissioned, Proof-of-Authority blockchain infrastructure for regulated financial services, combining post-quantum cryptography, AI-automated compliance and financial messaging and settlement capabilities. **QUANTUM** is its native protocol utility coin, referred to throughout this paper as QUANTUM. The **Quantum Reserve** is the QUANTUM-based reserve protocol that holds strategic supply to support network participation and institutional operational requirements as adoption scales.

This paper sets out the intended economic design. It is not a statement of current treasury balances, historical distributions, implemented Quantum Validator reward rates or regulatory authorisations. Lock-up terms, fee treatment and Reserve governance described below reflect the intended design and may be refined before implementation.

Key entities and terms

Quantum Foundation	The entity that holds the Quantum Foundation allocation and acts as a support structure for Quantum Chain in the future.
Quantum Reserve	Quantum Chain's QUANTUM-based reserve protocol, modelled on the role of a federal reserve. It pools strategic supply to institutions.
Quantum Vaults	Client initial wallet, Quantum Vaults, on Quantum Chain. New institutional clients receive starter QUANTUM in their Quantum Vault, funded from a dedicated pool.
Reserve & contingency	A separate allocation held as an operational buffer. It is not part of the Quantum Reserve.

1. FIXED-SUPPLY ARCHITECTURE

The defined maximum supply is **1,000,000,000,000 QUANTUM**. The supply framework separates strategic protocol capacity from operational allocations, enabling planned network development without assuming new issuance.

Fixed supply does not guarantee scarcity in circulation, market value or availability of liquidity.

Maximum supply	1,000,000,000,000 QUANTUM
Supply created	Minted in full at network genesis and held in designated allocation wallets

Further issuance	None. The protocol makes no provision for issuance beyond the maximum supply
Coin removal (burn)	No automatic burn mechanism. Any future burn would require governance approval and public disclosure

2. ALLOCATION ARCHITECTURE

The original tokenomics framework established seven allocation categories. These were the starting allocations at genesis.

2.1 Original allocation

ALLOCATION CATEGORY	SHARE	QUANTUM
Founding team & advisers	15%	150,000,000,000
Quantum Foundation	25%	250,000,000,000
Network development & incentives	25%	250,000,000,000
Listings & liquidity	10%	100,000,000,000
Strategic partnerships & R&D	10%	100,000,000,000
Community & marketing	10%	100,000,000,000
Reserve & contingency	5%	50,000,000,000
Total	**100%**	**1,000,000,000,000**

2.2 Update: pooling unused allocations into the Quantum Reserve

After the network's first 18 months of operation, portions of four allocations that were not needed for their original purpose have been pooled into the Quantum Reserve. The Founding team & advisers, Quantum Foundation and Reserve & contingency allocations are unchanged. From the pooled amount, 1 billion QUANTUM has been set aside to fund client Quantum Vaults.

Pooled from

Network development & incentives: 150B
Listings & liquidity: 60B
Strategic partnerships & R&D: 60B
Community & marketing: 70B

Quantum Reserve

340 billion pooled in total. **339 billion** held for institutional access under Reserve governance.

Quantum Vaults

1 billion split from the Quantum Reserve to give new institutional clients starter QUANTUM in their Quantum Vaults.

2.3 Current allocation

CATEGORY	ORIGINAL	CHANGE	CURRENT	SHARE
Founding team & advisers	150B	–	150B	15.0%
Quantum Foundation	250B	–	250B	25.0%
Network development & incentives	250B	−150B	100B	10.0%
Listings & liquidity	100B	−60B	40B	4.0%
Strategic partnerships & R&D	100B	−60B	40B	4.0%
Community & marketing	100B	−70B	30B	3.0%
Reserve & contingency	50B	–	50B	5.0%
Quantum Reserve	–	+339B	**339B**	33.9%
Quantum Vaults (client pool)	–	+1B	**1B**	0.1%
Total	**1,000B**	**0**	**1,000B**	**100%**

B = billion QUANTUM. Moving coins between allocations does not change the total supply.

3. LOCK-UPS AND CIRCULATING SUPPLY

Quantum Chain's network has been live since mid-2025. Allocations are not released on a vesting schedule. Instead, selected allocations (after the reallocation in Section 2) are subject to a lock-up of between 12 and 24 months from the date the coins are allocated, after which they may be transferred.

3.1 Lock-ups by category

CATEGORY	LOCK-UP	NOTES
Founding team & advisers	18 months	Private lock-up, aligning the team with the network's long-term development
Quantum Foundation	24 months	Held by the Quantum Foundation
Network development & incentives	None	Used on an ongoing basis to fund Quantum Validator rewards and network programmes
Listings & liquidity	None	Used as required for exchange listings and market-making
Strategic partnerships & R&D	12 months	Applied to each partner allocation from the date it is made
Community & marketing	12 months	Applied to each programme allocation from the date it is made
Reserve & contingency	24 months	Thereafter used only by governance resolution
Quantum Reserve	None	Allocated only under Reserve governance (Section 7)
Quantum Vaults	None	Distributed to client Quantum Vaults as clients are onboarded

Lock-ups are applied manually. Locked QUANTUM is held in designated wallets are not transferred until its lock-up ends. Lock-ups are administered by Quantum Chain and the Quantum Foundation rather than enforced by smart contract, and locked balances are shown separately in each supply report.

3.2 Supply definitions and reporting

Total supply	All QUANTUM in existence, up to the 1 trillion maximum.
Locked supply	QUANTUM held in designated wallets under a lock-up since initial distributions.
Treasury supply	Unlocked QUANTUM held by Quantum Chain, the Quantum Reserve or the Quantum Vaults.
Circulating supply	Total supply less locked and treasury supply.

4. NATIVE PROTOCOL UTILITY

Transaction processing	QUANTUM functions as the native unit for protocol transaction fees and designated network resources.
Quantum Validator participation	Approved institutional Quantum Validators earn QUANTUM for producing and signing blocks on their Quantum Nodes, under defined governance and technical rules (Section 5).
Institutional services	Financial messaging, tokenised assets, stablecoin and deposit infrastructure can create network activity that consumes protocol resources.
Client onboarding	New institutional clients receive starter QUANTUM in their Quantum Vault so they can begin transacting on Quantum Chain straight away.
Enterprise abstraction	Fiat-denominated service arrangements may shield institutional clients from direct coin management while the protocol accounts for underlying consumption.

5. HOW QUANTUM VALIDATORS EARN QUANTUM

Quantum Chain uses **Proof-of-Authority**. Quantum Validators do not mine or stake coins to win the right to produce blocks. Instead, they are known, approved institutions, and their identity, regulatory standing and reputation are what secure the network.

As a result, a Quantum Validator does not need to lock up QUANTUM to take part, and there is no delegation. Quantum Validators earn QUANTUM for the work of running the Quantum Nodes that operate the network, and are held to account through their approval to operate rather than through coins at risk.

5.1 The Quantum Validator lifecycle

01 Apply and be approved	02 Run a Quantum Node	03 Earn QUANTUM	04 Stay in good standing
A regulated institution applies to the Quantum Foundation and passes identity, regulatory, technical and security checks.	Approved Quantum Validators take turns to propose and sign blocks in a set rotation, keeping the network running and transactions final.	Each epoch, active Quantum Validators receive a share of a fixed reward pool plus a share of the fees in the blocks they produce.	Uptime and performance are monitored. Shortfalls reduce rewards; serious misconduct leads to suspension or removal.

5.2 Where Quantum Validator earnings come from

Epoch rewards	A fixed amount of QUANTUM is set aside for each epoch from the Network development & incentives allocation and shared equally among Quantum Validators that meet the performance threshold. Rewards come from the existing allocation; no new coins are created.
Transaction fees	Quantum Validators receive a share of the fees in the blocks they produce. The remainder goes to a protocol treasury account used for network operations, in proportions set by network governance. Fees are not burned.
Performance adjustment	Each Quantum Validator's epoch reward is scaled by its performance score, based on uptime and on signing blocks when scheduled. Rewards withheld for underperformance return to the incentives pool.
Accountability	Because no QUANTUM is staked, none is slashed. Quantum Validators are held to account through reduced or forfeited rewards and, for serious or repeated failures, suspension or removal from the Quantum Validator set.

5.3 Worked example (illustrative only)

> Suppose the epoch reward pool is **1,000,000 QUANTUM** and **20 Quantum Validators** are active.
>
> Each Quantum Validator's full share is **50,000 QUANTUM** (1,000,000 ÷ 20).
>
> A Quantum Validator with a 100% performance score receives 50,000. A Quantum Validator with a 90% score receives **45,000**, and the 5,000 not paid returns to the incentives pool.
>
> On top of this, each Quantum Validator receives its share of the fees in the blocks it produced during the epoch.

These figures illustrate the method only. Actual epoch amounts and the number of Quantum Validators are set by network governance.

5.4 Earnings, consumption and the Quantum Reserve

Quantum Validator rewards and enterprise fee schedules are calibrated separately: what a Quantum Validator earns need not equal what an institution consumes, and enterprise flat fees are supported by explicit internal gas-accounting rules. Where an institution's network use outgrows what it earns as a Quantum Validator, it may obtain additional QUANTUM through the Quantum Reserve (Section 6).

6. QUANTUM RESERVE AND QUANTUM VAULTS

The **Quantum Reserve** is Quantum Chain's QUANTUM-based reserve protocol. Modelled on the role of a central reserve, it holds strategically retained supply and allocates it to institutions under defined governance,

supporting long-horizon institutional adoption. It is kept separate from routine network incentive and operational pools.

As participating institutions scale their activity, operational demand for protocol resources may exceed coins earned from Quantum Validator participation. Subject to approved governance and applicable law, the Reserve provides access to additional QUANTUM through controlled institutional allocation. It does not prescribe sales, lending, pricing or distribution rights.

How it is funded	Unused portions of the Network development & incentives, Listings & liquidity, Strategic partnerships & R&D, and Community & marketing allocations (Section 2.2).
Size	340 billion QUANTUM pooled (34% of maximum supply): 339 billion held for institutional access and 1 billion set aside for Quantum Vaults.
Future additions	Further unused allocation may be moved into the Reserve by governance resolution and will be disclosed in the next supply report.
What it is not	Not the Reserve & contingency allocation, which remains a separate operational buffer.

6.1 Quantum Vaults

Quantum Vaults are client wallets on Quantum Chain. To remove the first barrier to using the network, each newly onboarded institutional client receives an initial balance of QUANTUM in its Quantum Vault, funded from the 1 billion pool split from the Quantum Reserve. Starter amounts are set per client under Reserve governance and covered in each supply report.

> **Although modelled on a central reserve, the Quantum Reserve is a protocol treasury mechanism, not a sovereign monetary authority, central bank, deposit, guarantee or promise of liquidity.**

7. RESERVE GOVERNANCE PRINCIPLES

Mandate and custody	Documented ownership, authority, segregation and approved signatories.
Allocation controls	Purpose-based eligibility, approvals, concentration limits and auditable decisions.
Supply reporting	Distinguish total supply, locked holdings, treasury allocations, circulating amounts and actual network consumption.
Economic safeguards	Stress-test Quantum Validator rewards, fee stability, liquidity requirements and adverse market conditions.
Regulatory perimeter	Assess any custody, transfer, distribution, exchange, incentive or marketing activity before implementation.
Governing body	The board of the Quantum Foundation (BVI). Reserve and treasury movements require approval by a majority of designated signatories under a multi-signature arrangement.

8. HOW QUANTUM COMPARES

The table places QUANTUM alongside established networks used for payments, tokenisation and institutional finance, and alongside QRL, a network built around quantum-resistant cryptography. Figures for other networks are drawn from their published documentation and other public sources listed at the end of this paper, as at the dates shown.

NETWORK	MAXIMUM SUPPLY	HOW SUPPLY IS CREATED AND RELEASED	CONSENSUS AND VALIDATORS	VALIDATOR INCENTIVES
Quantum Chain (QUANTUM)	1 trillion	Defined maximum; seven design allocations; 340B pooled into the Quantum Reserve, incl. 1B for client Quantum Vaults. 12–24 month manual lock-ups.	Proof-of-Authority; approved institutional Quantum Validators running Quantum Nodes	Fixed per-epoch rewards from the Network development & incentives allocation, scaled by performance, plus a share of fees. No staking required.
XRP Ledger (XRP)	100 billion	All created at launch (2012). 55 billion placed in escrow in Dec 2017; up to 1 billion released a month, unused amounts re-escrowed. Transaction fees are destroyed.	XRP Ledger Consensus Protocol	None. Validators are not paid by the protocol.
Hedera (HBAR)	50 billion	All minted at launch into a treasury. Releases require Hedera Governing Council approval.	Hashgraph, proof-of-stake; council-operated nodes	Node rewards and staking rewards, each paid from a share (~10%) of network fees
Stellar (XLM)	~50 billion	100 billion at launch. ~1% annual inflation ended Oct 2019; ~55.4 billion permanently removed Nov 2019. Fees collected in a protocol fee pool.	Stellar Consensus Protocol (federated Byzantine agreement)	None. Validators are not paid by the protocol.
Algorand (ALGO)	10 billion	All minted at genesis; distributed from defined pools managed by the Algorand Foundation.	Pure Proof-of-Stake	Block proposers receive 50% of fees plus a decaying bonus, paid from a Foundation-funded fee sink (since Jan 2025)
XDC Network (XDC)	No fixed cap (~37.9 billion, Aug 2024)	Ongoing new issuance, estimated at ~0.5% a year (2024), paid as epoch rewards; 10% of epoch rewards go to the foundation.	XDPoS; 108 validator masternodes plus standby nodes, 10 million XDC stake each	New issuance (epoch rewards) plus a share of fees

What this shows

Common ground	Like XRP, HBAR, XLM and ALGO, QUANTUM uses a fixed supply rather than ongoing inflation, with allocations managed by an accountable entity.
Where Quantum Chain differs	Quantum Validators are identified, approved institutions under Proof-of-Authority, and the Quantum Reserve is designed specifically for institutional operational capacity rather than general treasury spending.
Where peers set the bar	Peers publish release schedules, escrow or treasury addresses and live circulating-supply figures. Sections 3 and 5 commit Quantum Chain to the same disclosures.

Supply figures are not a measure of value. A larger supply means each unit represents a smaller share of the network.

9. INSTITUTIONAL ADOPTION THESIS

Quantum Chain's network economics are designed to serve banks, central banks, asset managers and financial market infrastructure that prioritise predictable operating costs, security and regulatory accountability.

> **The utility thesis rests on genuine protocol use, rather than anticipated price appreciation or speculative secondary-market activity.**

10. DESIGN STATUS AND LIMITATIONS

The original allocation percentages reflect the historical tokenomics design, updated by the reallocation to the Quantum Reserve in Section 2. The Quantum Reserve, Quantum Validator reward schedules, lock-ups, governance bodies and enterprise billing mechanics require definitive documentation and, where applicable, technical verification.

Legacy descriptions of staking yield, governance voting, buybacks, burns or reserve-backed financial products should not be treated as operative commitments without separate approval and evidence.

CONCLUSION

QUANTUM is positioned as the native utility underpinning a fixed-supply, institutionally governed blockchain economy. The Quantum Reserve extends that framework by providing a strategic model for long-term operational capacity as institutional network use grows.

Important notice: *This paper describes a proposed protocol-economic framework. It is not an offer, solicitation, investment recommendation, representation of current token holdings or confirmation that any regulated activity is authorised.*

Sources for Section 8: *XRPL.org, Transaction Cost; Nasdaq, Token Deep Dive: XRP; Ripple, 55 billion XRP escrow announcement (2017); Hedera whitepaper (Hbar Economics) and Hedera docs, Network Accounts (HIP-1259); Stellar developer docs, Lumens, and The Block (4 Nov 2019); Algorand Foundation, Long Term Algo Dynamics, and Algorand developer docs, Staking Rewards; XDC Staking and Tokenomics improvement proposal (arXiv 2409.07420, Sep 2024) and XDC docs, Rewards; theqrl.org/tokenomics and QIP-016. Accessed November 2026.*