$BQRY
Biological Capital Control Standard

Tokenomics Litepaper v1.0

The First DePIN Control Plane for the Agentic Bioeconomy
Network: Base (Coinbase L2) | Token: $BQRY | Standard: ERC-20
bccs.bio | bioclearing.global | kryonis.global

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"Value is not created. It is measured at the point where biology meets verification."

1. The Thermodynamic Oracle Problem

In the rapidly expanding 2026 agentic economy, AI agents possess autonomous financial identities, wallets, and the authorization to execute complex transactions at machine speed. Operating primarily on networks like Base, these agents trade millions of dollars in digital-native assets daily.

However, a critical structural void remains: autonomous systems cannot natively verify or price physical, thermodynamic reality.

When an AI agent attempts to transact against biological capital - a forest carbon system, a permafrost reserve, an agricultural yield - it encounters the Thermodynamic Oracle Problem. Unlike digital tokens, biological assets are governed by entropy. Forests burn, soil degrades, ecosystems collapse. Current financial infrastructure relies on the "PDF Oracle": static, human-audited certificates that become factually obsolete the moment biological conditions shift.

If an autonomous agent cannot cryptographically verify the real-time physical state of the Earth, the multi-trillion-dollar bioeconomy remains inaccessible to the agentic financial system. The Biological Capital Control Standard (BCCS) solves this by introducing the Bio-Asset Identification Number (BAIN ID) and an 8-State Verification Engine.

But a standard alone cannot enforce truth without centralized corruption. This is the function of the $BQRY token.

2. BAIN ID: The Biological Asset Identity

Every biological asset in the BCCS network receives a BAIN ID - a 21-character immutable identifier that encodes asset type, jurisdiction, biome classification, and registration sequence. The BAIN ID is the protocol's atomic unit of truth. It is minted on Base as a non-transferable, soulbound record.

2.1 The 8-State Lifecycle Model

Each BAIN ID moves through an 8-state lifecycle that captures the full thermodynamic journey of a biological asset:

State	Trigger	Description
Registered	Node enrollment	Asset identified and BAIN ID minted on-chain
Active	First verification	Node live, producing attestation data via PoPS consensus
Suspended	Anomaly detected	Temporary halt pending investigation or recalibration
Migrating	Spatial operation	Asset in physical transition between jurisdictions (Split/Merge)
Dormant	Seasonal cycle	Natural low-activity period (e.g. winter permafrost)
Degraded	Threshold breach	Below minimum viability; recovery protocol initiated
Depleted	Terminal state	Irrecoverable biological destruction; BAIN ID archived on-chain
Archived	Protocol exit	Clean exit from network; historical data preserved immutably

Every state transition requires cryptographic attestation through the Proof-of-Physical-State consensus mechanism, backed by staked $BQRY tokens.

3. Token Utility: The Economic Engine of Truth

The $BQRY token is not a fundraising mechanism. It is the mathematical foundation of the protocol's trust model. The token powers three critical pillars:

3A. Cryptographic Surety (Oracle Staking)

To become an Accredited Oracle, institutions must acquire and stake $BQRY tokens into a Base smart contract. This stake represents executable skin in the game. An Oracle cannot submit a state-transition request without locking capital that backs the claim. As sovereign registries and scientific institutions adopt BCCS, massive quantities of $BQRY supply are structurally locked out of circulation.

3B. Truth Enforcement (Algorithmic Slashing)

If the decentralized Validator Network detects a material discrepancy in an Oracle's claim, a challenge is initiated. If proven fraudulent, the Oracle's staked $BQRY tokens are instantly slashed - cryptographically burned or redistributed to honest Validator Nodes. Lying carries an immediate, irreversible financial penalty.

3C. Agentic Gas (The Demand Sink)

Every AI agent query, spatial operation, and policy verification pays a micro-fee in $BQRY. This creates continuous, high-velocity demand that scales linearly with the growth of machine-to-machine bio-commerce.

$BQRY is the gas of the agentic bioeconomy. Every time a Wall Street algorithm needs to know whether a Brazilian forest is still standing, $BQRY is consumed.

4. DePIN Security Layer: Proof-of-Physical-State (PoPS)

BCCS employs a Decentralized Physical Infrastructure Network (DePIN) consensus layer. Validator Nodes are lightweight software clients operated by a decentralized global community. When an Oracle submits a BAIN ID state transition, the Validator Network algorithmically cross-references the claim against macro-level data feeds: satellite imagery, synthetic aperture radar, thermal anomaly databases, and independent research streams. Fraudulent claims are algorithmically slashed.

4.1 Validator Node Economics

- Protocol Emissions (Base Yield): 45% of total $BQRY supply emitted to active Validator Nodes over a 6-year epoch schedule with Bitcoin-style halving every 2 years
- Agentic Gas Fees (Real Yield): A perpetual share of micro-transaction fees from AI agents querying the BCCS API flows directly to the active Validator Network
- Slashing Bounties: When a fraudulent Oracle is penalized, a portion of their slashed $BQRY stake is redistributed to the honest Validator Nodes that detected the anomaly

4.2 The Biological Clearing Mechanism

BCCS introduces bioclearing - a protocol-native mechanism for settling biological capital transactions on-chain. When a BAIN ID transitions between states, the bioclearing engine calculates the net change in biological capital value and settles it on-chain. This replaces the slow, opaque, and fragmented process of carbon credit retirement with a real-time, transparent, and composable system.

bioclearing.global serves as the public registry interface for all settled biological capital transactions.

5. Genesis Validator License Sale

A Validator License is a non-transferable software permit issued as an ERC-721 NFT on the Base network. An entity cannot operate a BCCS node or earn $BQRY rewards without holding this license. By selling software licenses rather than conducting an Initial Coin Offering, KRYONIS ensures regulatory compliance while allowing the community to own the foundational infrastructure of the agentic bioeconomy.

5.1 Tiered Pricing Structure

The Genesis Sale is structured in escalating pricing tiers to reward early conviction and create immediate secondary market value. The sale is strictly capped.

Tier	Licenses	Price (USDC)	Target Buyer	Cumulative
Alpha	500	$1,000	Whitelist: VC, Angels, KOLs	$500K
Beta	1,000	$1,500	Waitlist: DePIN syndicates	$2.0M
Gamma	2,000	$2,200	Public: DePIN operators	$6.4M
Delta	3,000	$3,000	Public: global community	$15.4M
Epsilon	Dynamic	$3,500+	Open market	$20M+

Unsold licenses in lower tiers automatically roll over to higher pricing tiers, enforcing a strictly deflationary pricing model. Total target raise: $20M+.

5.2 Why Licenses, Not a Token Sale

Purchasers are not buying a speculative token - they are acquiring the right to operate infrastructure that produces verified biological data. This is a DePIN hardware-plus-token model, not a security offering. The $BQRY tokens earned per license are node rewards through honest participation, not investment returns guaranteed by purchase.

5.3 Immediate Treasury Deployment

- Protocol Engineering: Finalizing BCCS smart contracts on Base, the BAIN ID registry, and the AI-Agent API gateway
- Liquidity Bootstrapping: Securing deep liquidity pools (Aerodrome on Base, CEX listings) for the $BQRY Token Generation Event
- Oracle Subsidies (The Growth Hack): Subsidizing initial hardware and staking requirements for the first wave of Founding Oracles, entirely removing fiat-fee friction from institutional partnerships

6. Token Economics: Supply, Distribution, and Vesting

6.1 Specifications

Token: $BQRY. Network: Base (Coinbase L2 Ethereum Rollup). Standard: ERC-20. Maximum Fixed Supply: 1,000,000,000 (1 Billion) $BQRY. Hard-capped - no further $BQRY can ever be minted. Deflationary mechanics active through Oracle slashing burns and Agentic Gas micro-fee burns.

6.2 Distribution

Allocation	Share	Amount	Purpose
Validator Node Emissions	45%	450,000,000	Primary DePIN security budget. Emitted algorithmically via PoPS consensus.
Ecosystem & Oracle Grants	20%	200,000,000	Zero-friction onboarding fund. Subsidies for Founding Oracles.
Core Team & Contributors	15%	150,000,000	Long-term alignment for KRYONIS founders and protocol engineers.
Strategic Backers (VC)	12%	120,000,000	Web3 funds, DePIN syndicates, and angels providing capital and market access.
Public Sale & Liquidity	8%	80,000,000	DEX/CEX market making, liquidity pools, AI-agent transaction facilitation.

6.3 Vesting Schedules

Strict cryptographic time-locks enforced via Base smart contracts. No instant unlocks for insiders.

Allocation	Cliff	Vesting
Core Team (15%)	12 months	Linear daily vesting over 36 months (4 years total). Architects bound to multi-year success.
Strategic Backers (12%)	6 months	Linear daily vesting over 24 months. Prevents VC short-term exit liquidity.
Node Emissions (45%)	No cliff	6-year epoch schedule with Bitcoin-style halving every 2 years. Early operators earn more.
Ecosystem Grants (20%)	Milestone	10% at TGE for immediate Oracle onboarding. 90% deployed per verifiable milestones.
Public & Liquidity (8%)	None	100% at TGE. Required for deep order books, price discovery, and agent transactions.

7. The Endgame: Deflationary Equilibrium

The $BQRY token is designed to become structurally deflationary as the agentic economy scales, utilizing a triple-sink mechanism:

- The Staking Black Hole: As more biological assets are registered, Oracles must buy and lock exponentially more $BQRY to maintain their security collateral
- Algorithmic Slashing Burn: Tokens slashed from malicious or incompetent Oracles are not fully recirculated; a percentage is permanently burned, reducing total circulating supply
- Agentic Gas Buy-Backs: As AI agents consume the BCCS API, a programmatic portion of USDC fees is routed to DEXs to automatically buy back and burn $BQRY

By Phase 3 (2028+), the protocol reaches Deflationary Equilibrium: daily agentic demand for $BQRY permanently exceeds

algorithmic daily emissions to Validator Nodes. At this inflection point, BCCS becomes the self-sustaining monopoly control plane for planetary biological capital.

8. Roadmap

Phase	Milestones
Q2 2026	Protocol specification finalized. BAIN ID standard published. First Founding Oracle partnerships initiated (subsidized via initial Ecosystem Grant allocation). Base testnet contracts deployed. Validator whitelist opens.
Q3 2026	Genesis Validator License Sale: Alpha and Beta tiers. First 100 BAIN IDs minted. AI verification agent v1 live on testnet. Ecosystem partnership framework activated.
Q4 2026	Token Generation Event (TGE) on Base. Gamma and Delta license tiers open. PoPS consensus engine v1 on mainnet. Bioclearing engine v1 deployed. First institutional data licensing agreements.
Q1 2027	Epsilon tier and open market. Cross-chain bridge to Ethereum mainnet. On-chain governance activated. 1,000+ active BAIN IDs. First Oracle slashing events validate trust model.
2027-2028	Full DePIN network scaling across biomes. Global Founding Oracle expansion. Institutional integration with sovereign wealth funds, reinsurance, and ESG analytics. Deflationary Equilibrium target.

9. Why Base

Base is not an arbitrary chain selection. It is a strategic alignment. Coinbase's institutional reach bridges DePIN infrastructure with regulated capital markets. Sub-cent transaction costs make per-attestation micro-fees economically viable. EVM compatibility ensures composability with the broader DeFi ecosystem. And the Coinbase brand de-risks the compliance narrative for institutional participants who will never touch a chain they cannot explain to a board of directors.

The agentic economy is being built on Base. If $BQRY is the gas that AI agents consume to verify biological reality, it must live where the agents live.

10. Closing Position

BCCS does not compete with carbon credits. It replaces the category. Where carbon markets measure a single dimension of a complex system, BCCS measures the system itself - its state, its trajectory, its thermodynamic truth.

The $BQRY token is not a bet on environmental sentiment. It is infrastructure for an economy that does not yet exist but inevitably must: one where biological capital is as legible, liquid, and composable as any financial asset on-chain, and where autonomous agents can price the planet in real time.

The question is not whether biological capital will be tokenized. The question is whether the standard that tokenizes it will be sovereign, verifiable, and thermodynamically honest. BCCS is built to be that standard.

The Genesis Validator License Sale opens exclusively to whitelisted partners in Q3 2026. Join the waitlist at bccs.bio.