

Kinexys Carbon Token (KCT) Whitepaper

Date: August 18, 2025 Version: 1.0

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Executive Summary

The Kinexys Carbon Token (KCT) represents a groundbreaking initiative by JPMorgan's blockchain division, Kinexys (formerly Onyx), to digitize and streamline the global carbon credit market. As a tokenized asset anchored to the price of EU carbon credits, KCT aims to address longstanding challenges in carbon trading, such as lack of transparency, data fragmentation, and inefficient transactions. By leveraging blockchain technology, KCT enables secure, compliant, and scalable carbon credit management, facilitating corporate ESG goals, voluntary offsets, and cross-border trades.

The global carbon credit market is experiencing rapid growth, valued at approximately USD 479.41 billion in 2023 and projected to reach USD 4,734.35 billion by 2030, with a CAGR of 38.5%. This expansion is driven by increasing regulatory pressures and corporate sustainability commitments across regions like the EU, Asia, and the US. However, traditional markets suffer from pain points including inconsistent standards and high transaction friction, which blockchain solutions like KCT are poised to resolve.

KCT's total supply is 250,000,000 tokens, deployed on Ethereum and BNB Chain, with allocations designed to foster ecosystem growth. Through strategic partnerships with S&P Global Commodity Insights, EcoRegistry, and ICR, KCT ensures transparent pricing, lifecycle management, and interoperability. This whitepaper outlines the project's background, technology, applications, and roadmap, inviting stakeholders to participate in building a digitized carbon future.

Project Background

The Kinexys Carbon Token (KCT) emerges from the intersection of global climate imperatives and financial innovation. As nations and corporations intensify efforts to achieve net-zero emissions, carbon credits have become essential tools for offsetting unavoidable emissions. However, the fragmented nature of existing markets hinders scalability and trust.

KCT is designed as a digital token that mirrors the value of EU carbon allowances, providing a stable, blockchain-based representation of carbon credits. This initiative builds on JPMorgan's extensive experience in blockchain through Kinexys, aiming to bridge traditional finance with sustainable assets. The project addresses the need for efficient carbon trading amid rising demand, particularly in compliance markets like the EU ETS and emerging voluntary schemes in Asia.

Mission and Vision

Mission: To digitize carbon credits on a secure blockchain platform, enhancing transparency, reducing transaction costs, and enabling seamless global participation in carbon markets.

Vision: A world where carbon credits are universally accessible, verifiable, and interoperable, accelerating the transition to a low-carbon economy through innovative financial tools.

Key Highlights



Anchored Value

KCT pegged to EU carbon credit prices for stability.



Blockchain Backbone

Built on Kinexys infrastructure for security and scalability.



Partnerships

Collaborations with S&P Global, EcoRegistry, and ICR for comprehensive ecosystem support.



Tokenomics

250M total supply with balanced allocations for sustainability.



Roadmap

Phased rollout from pilots in 2025 to global integration by 2026.



Applications

Supports ESG compliance, offsets, and financial products.

Industry Background

Global Carbon Credit Market Status and Trends (Including Netherlands, EU, Asia)

The global carbon credit market is a cornerstone of climate action, enabling entities to offset emissions through tradable credits. In 2023, the market was valued at USD 479.41 billion, with projections to grow to USD 4,734.35 billion by 2030 at a CAGR of 38.5%. Revenues from carbon pricing reached a record USD 104 billion in 2023, reflecting increased adoption of emissions trading systems (ETS) and taxes.

In the **EU**, the ETS covers 45% of emissions and remains the most mature system, with ongoing reforms to tighten caps and expand sectors. The Carbon Border Adjustment Mechanism (CBAM) influences global trade by imposing tariffs on high-emission imports, driving international alignment.



The **Netherlands**, as part of the EU ETS, generated USD 16.97 billion in carbon credit revenue in 2023, expected to reach USD 178.23 billion by 2030. National policies emphasize renewable energy and circular economy practices.

In **Asia**, compliance markets are evolving rapidly, influenced by EU CBAM. Voluntary credit issuances declined in 2022-2023, but retirements remained stable. Countries like China, Japan, and South Korea are expanding ETS, with Asia-Pacific projected as the fastest-growing region. Interoperability is emerging as a key design feature for regional markets.

Trends include market financialization, digitalization, and integration with ESG reporting, with blockchain enhancing transparency.

Traditional Carbon Market Pain Points

Data Fragmentation

Credits are managed across disparate registries, leading to silos and difficulties in tracking.

Lack of Transparency

Opaque pricing and verification processes erode confidence, with issues like double-counting.

Transaction Friction

High costs, slow settlements, and manual processes increase barriers to entry.

Inconsistent Standards

Varying methodologies across regions cause interoperability issues and market inefficiencies.

These pain points result in dampened demand and scalability challenges, which blockchain can address through immutable records and automation.

Kinexys Introduction

JPMorgan Blockchain Department Positioning (Formerly Onyx)

Kinexys, JPMorgan's blockchain division (renamed from Onyx), focuses on bank-led solutions for institutional clients, including tokenized assets, settlements, and payments. It positions itself as a leader in integrating blockchain with traditional finance, emphasizing compliance and scalability.



Past Blockchain Project Achievements

\$2B

Daily Processing

Kinexys has achieved significant milestones, processing up to USD 2 billion daily in tokenized assets.

\$1B

JPM Coin Transactions

JPM Coin handles USD 1 billion in daily transactions, with growth driven by programmability.

Use cases include instant repo settlements, cross-border payments, and the Interbank Information Network (IIN) for fraud prevention. Recent innovations include programmable payments and multicurrency FX settlements.

Role of KCT in Kinexys Strategy

KCT serves as a flagship asset in Kinexys' sustainability focus, tokenizing carbon credits to expand into green finance. It leverages Kinexys' infrastructure for real-time settlements and interoperability, aligning with broader goals of asset tokenization and climate action.

Strategic Partners

S&P Global Commodity Insights: Carbon Credit Pricing and Transparency Collaboration



S&P Global provides benchmark price assessments for voluntary carbon offsets, enhancing KCT's transparency through data integration. Collaboration includes tokenizing credits for trust and scale.

EcoRegistry & ICR: Carbon Credit Lifecycle and Registry Management

EcoRegistry and ICR manage credit registration, verification, and retirement, with Kinexys' app enabling tokenization for seamless lifecycle tracking.

Other Potential Partners

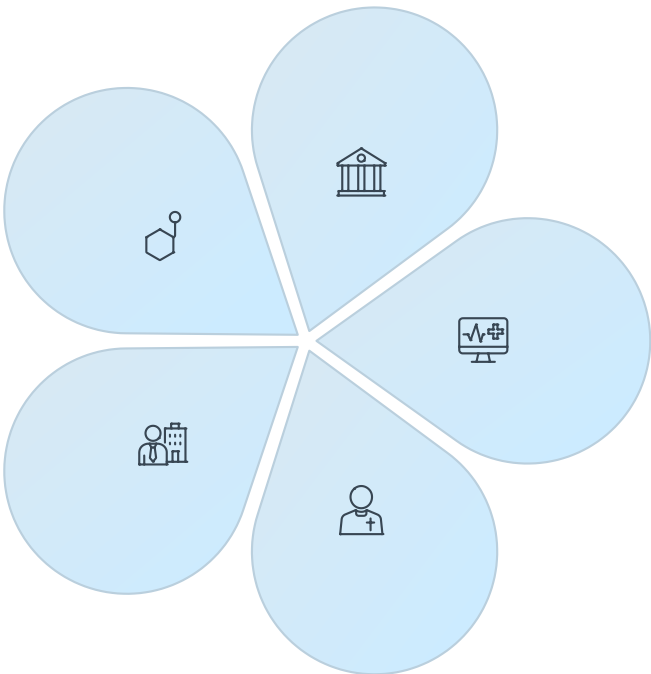
Engagements with standardization bodies like the International Carbon Action Partnership and environmental NGOs such as WWF for validation and advocacy.

Carbon Credit Registries

Verra, Gold Standard, American Carbon Registry

Corporate Participants

Fortune 500 companies with net-zero commitments



Financial Institutions

Global banks and investment firms

Technology Providers

Blockchain infrastructure and data analytics companies

Regulatory Bodies

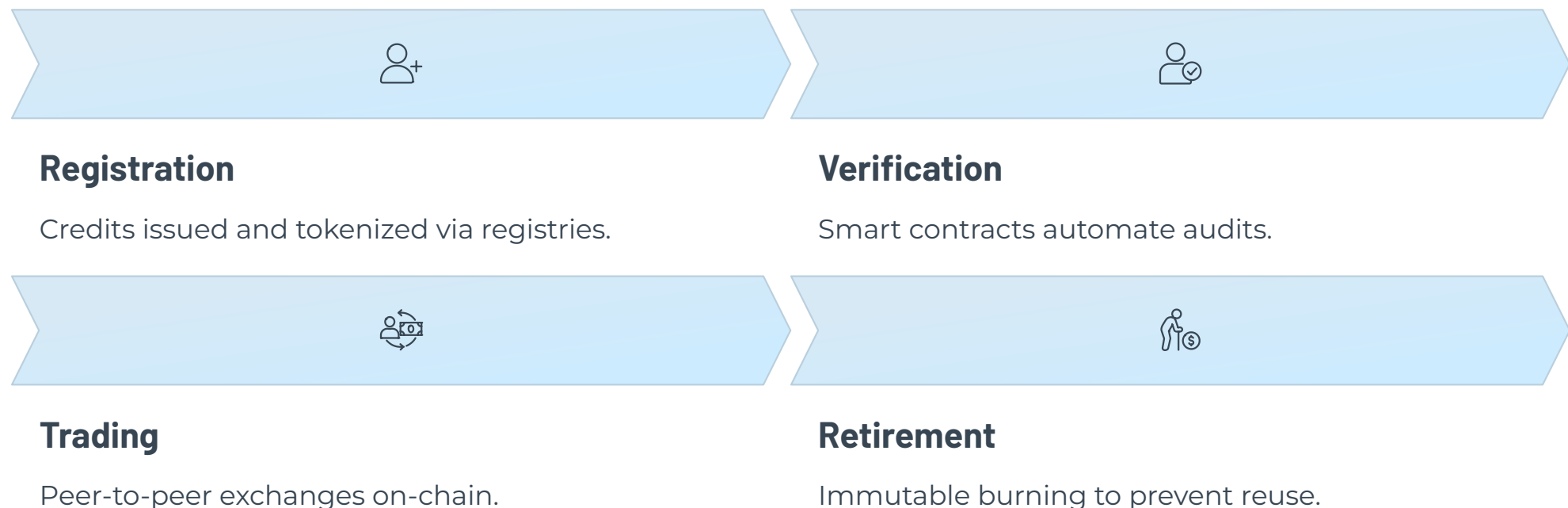
Environmental agencies and carbon market regulators

Technology and Architecture

Blockchain Infrastructure

Kinexys utilizes a permissioned blockchain for security (immutable ledgers, encryption), compliance (KYC/AML integration), and scalability (high throughput via sharding).

Carbon Credit Digitization Process



Data Transparency and Cross-Platform Interoperability

Blockchain ensures auditable transactions, with standards like ERC-1155 for cross-chain compatibility.

KCT Digital Asset Design

Digital Carbon Credit Unit Model

Each KCT represents one tonne of CO2 equivalent, anchored to EU ETS prices, with metadata for project details.

Lifecycle Tracking and Automated Compliance

Smart contracts track from issuance to retirement, enforcing rules automatically.

Governance and Ecosystem Participation Methods

Community

Token holders vote on proposals via DAO.

Institutions

Staking for priority access.

Regulators

Transparent reporting interfaces.

Market and Application Scenarios

Corporate ESG Compliance

KCT facilitates purchasing credits for regulatory compliance, integrating with reporting tools.

Voluntary Carbon Offset Programs

Enables individuals and firms to offset emissions transparently.

Cross-Border Trade Carbon Accounting

Supports CBAM-compliant accounting with immutable records.

Carbon Market Financialization Support

Tokens as collateral for loans or guarantees, enabling derivatives.

Compliance and Risk Management

Compliance with EU, US, Asia-Pacific Major Carbon Market Regulations

Aligns with EU ETS/CBAM, US state-level caps, and Asia's emerging ETS (e.g., China's national system).

Technical Risks and Mitigation Measures

Risk: Smart contract vulnerabilities

Mitigated by audits and bug bounties.

Risk: Scalability limits

Addressed with layer-2 solutions.

Market Risks and Mitigation Mechanisms

Risk: Price volatility

Stabilized via pegging and reserves.

Risk: Adoption barriers

Eased through education and incentives.

Roadmap



Conclusion

Outlook on Future Carbon Market Digitization

Digitization via blockchain will unlock USD trillions in value, fostering a unified global market.

Invitation for Collaboration and Ecosystem Participation

We invite regulators, corporations, and developers to join KCT's ecosystem for a sustainable future.

Appendix

Technical Terminology Explanations

- **Blockchain:** Distributed ledger for secure transactions.
- **Tokenization:** Converting assets into digital tokens.
- **Smart Contracts:** Self-executing code on blockchain.

Data References and Sources

References include World Bank reports, S&P assessments, and market analyses cited inline.

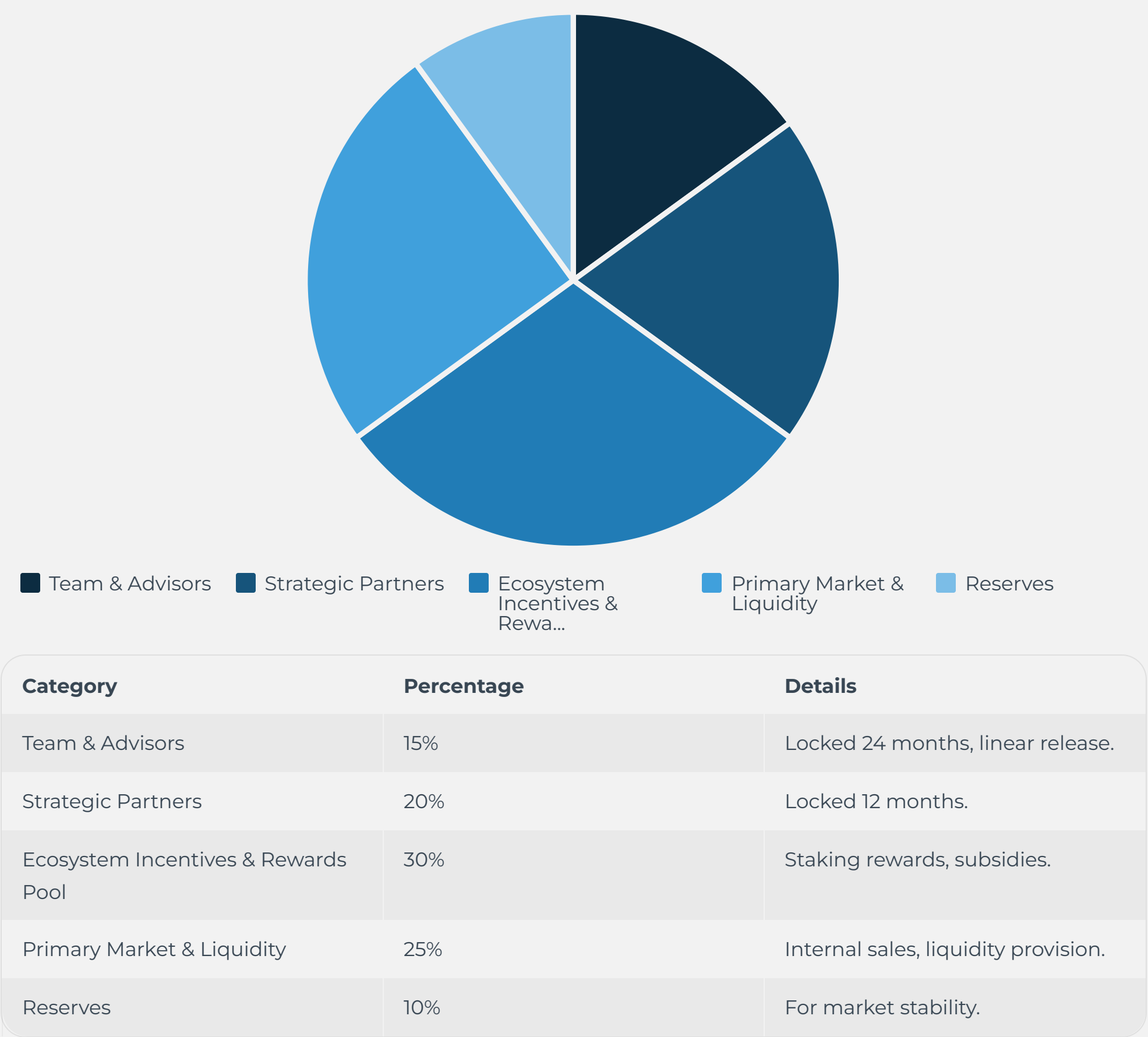
KCT Tokenomics

Token Information

- Name:** Kinexys Carbon Token (KCT)
- Symbol:** KCT
- Total Supply:** 250,000,000 KCT
- Blockchain Network:** BNB Chain



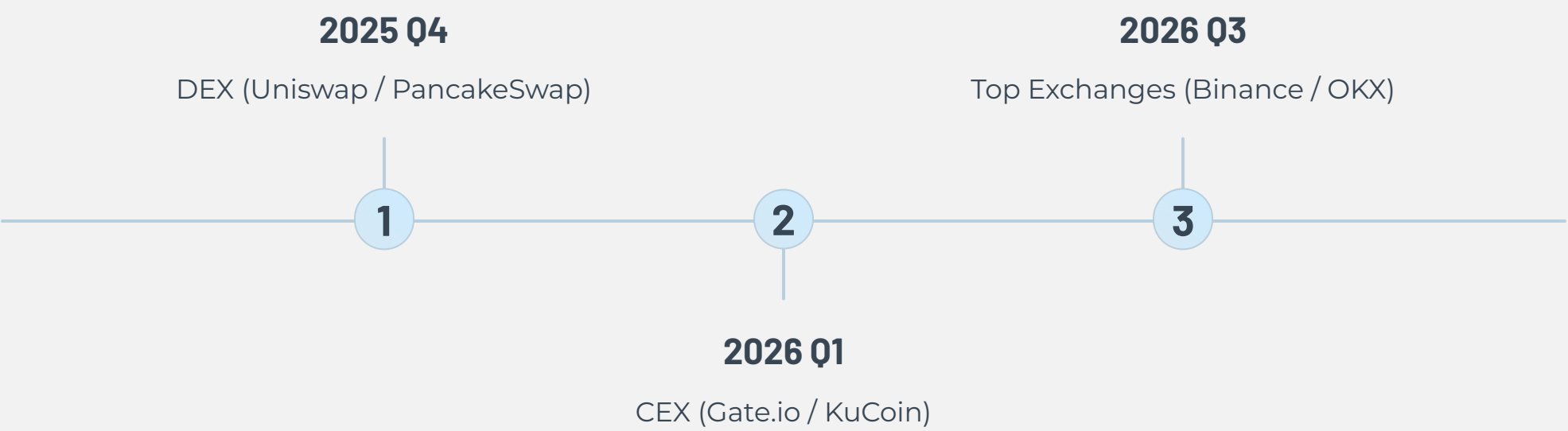
Token Allocation



Acquisition Methods (Primary Market Mechanism)

Internal flash exchange for whitelisted users; trading pairs: USDT/KCT, USDC/KCT; minimum purchase: 100 USD.

Exchange Listing Plan



Token Uses

- Carbon Credit**
Carbon credit purchase/settlement.
- Governance**
Staking for governance.
- Collateral**
Collateral for loans.
- Settlement**
ESG settlement fees.

Lockup and Release Mechanisms

Category	Lockup Period	Release Schedule
Team & Advisors	24 months	4.166% monthly post-lockup.
Strategic Partners	12 months	8.333% monthly post-lockup.

Market making strategies include liquidity pools and gradual releases to prevent dumping.