QIE BLOCKCHAIN WHITEPAPER Version 1.0

Abstract QIE is a next-generation, EVM-compatible blockchain designed to deliver speed, scalability, and sustainability. Built using the Cosmos SDK and Tendermint Core, QIE leverages modular architecture and community-driven governance to offer a highly efficient and secure blockchain infrastructure. This whitepaper outlines the technical foundation, tokenomics, validator mechanics, and user-centric features that make QIE a compelling platform for developers, validators, and delegators alike.

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1. Introduction QIE aims to solve the scalability and usability challenges of existing blockchain systems. By combining Ethereum Virtual Machine (EVM) compatibility with Cosmos-based infrastructure, QIE offers fast finality, low fees, and interoperability while maintaining decentralization and security. With a hard-capped supply, daily reward emission, and deflationary fee model, QIE is designed for long-term value preservation and sustainable ecosystem growth.

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2. Core Architecture

2.1 EVM Compatibility QIE supports Solidity and Ethereum tooling (MetaMask, Hardhat, Truffle, Remix), enabling seamless smart contract deployment and migration from Ethereum.

2.2 Cosmos SDK & Tendermint Core QIE uses Tendermint BFT consensus for fast (\~2s) block times and immediate finality. Cosmos SDK enables modular development for future protocol upgrades.

2.3 Modular Design Features like staking, governance, and transaction fees are modular. This allows protocol updates without hard forks.

2.4 Interoperability QIE supports IBC for Cosmos ecosystem connectivity and bridges to Ethereum and other major blockchains. It also supports ERC-20, ERC-721, and ERC-1155 standards.

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3. Tokenomics

3.1 Fixed Supply

- Total Supply: 150,000,565 QIE (hard-capped)
- No ICO, no private sale: All tokens were fairly mined.

3.2 Rewards Allocation

- 66,000,000 QIE allocated for validator/delegator rewards over 100 years
- No inflationary minting post-reward cap

3.3 Emission Model

- Daily Emission: 1,808 QIE/day (\~660,000/year)
- Governance can propose halving events (requires >50% participation)

- Emission halving reduces new token inflow, extending reward lifespan

3.4 Deflationary Mechanics

- Base transaction fees are burned (permanently removed from supply)
- Burn formula: `Burned Fee = Base Fee × Gas Used`
- Higher network usage increases burn, creating scarcity

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4. Validator System

4.1 Validator Roles & Rewards Validators earn from:

- Block Rewards (for proposing/validating blocks)
- Priority Fees (tips from user transactions)
- Delegation Commissions (share from delegators' rewards)

4.2 Daily Reward Distribution

- All rewards are distributed automatically every 24 hours
- No epoch waiting periods

4.3 Reward Calculation Formula

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Validator Reward =
  (Validator Stake / Total Active Stake) × Daily Emission
  + Validator Commission × Delegator Rewards
  + Block Proposal Rewards
```

4.4 Maximizing Profitability

- Maintain high uptime (24/7)
- Set a competitive commission rate
- Engage with delegators
- Follow security best practices
- Participate in governance

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5. Slashing & Jailing Mechanisms

5.1 Slashing

- Downtime: 0.01% slashed
- Double-signing: 5% slashed + permanent reputation loss
- Penalties apply to validator and delegators' staked QIE

5.2 Jailing

- Jailed for prolonged downtime or misconfiguration
- Cannot produce blocks or earn rewards while jailed

• Manual unjailing required via CLI after 1-hour penalty period (downtime)

5.3 Best Practices

• Monitor node uptime and health
• Maintain self-delegation minimum
• Update software regularly

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6. Delegator Experience

6.1 What is a Delegator? A delegator is a QIE holder who stakes their coins with a validator to earn passive income while supporting network security.

6.2 Delegation Process

• Stake coins with a validator of choice
• Validator adds stake to their pool
• Daily rewards are earned and shared (minus validator commission)

6.3 Risks

• Shared slashing risk
• Performance dependency on validator
• Unbonding period (during which coins are still at risk)

6.4 Tips for Delegators

• Start small and monitor validator performance
• Support governance-active validators
• Rebalance delegation periodically
• Secure wallet and private keys

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7. Developer Ecosystem

7.1 Smart Contract Deployment Use Remix, Hardhat, or Truffle to deploy contracts on QIE. The process mirrors Ethereum deployment.

7.2 High Performance 30,000+ TPS with sub-second finality

7.3 Low Fees QIE offers predictable, low-cost transactions, enabling microtransaction-heavy dApps

7.4 Ethereum Compatibility Use MetaMask, Ethers.js, Web3.js with no code changes

7.5 Modular Upgradeability Smart contract and core modules can be upgraded without breaking the chain

7.6 Storage & Oracles Supports native on-chain storage and external data via oracles

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8. Governance

- Validators and delegators vote on chain parameters and proposals
- Emission halving and protocol upgrades are determined via community vote
- Ensures decentralized control and adaptive growth

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9. Conclusion QIE is a future-proof blockchain platform combining the strengths of Ethereum and Cosmos. With its EVM compatibility, deflationary model, fast finality, and community-driven governance, QIE delivers a powerful and sustainable environment for developers, validators, and delegators.

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10. References

- Ethereum Yellow Paper
- Cosmos SDK Documentation
- Tendermint Core Docs
- QIE GitBook: https://qi-blockchain.gitbook.io/qie

Contact & Resources

- Website: https://qie.digital
- Explorer: https://mainnet.qie.digital
- GitBook: https://qi-blockchain.gitbook.io/qie
- Faucet & Devnet Docs: See GitBook

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