True Ghana Cedi Stablecoin (tGHS) Whitepaper

A Stable Digital Representation of the Ghanaian Cedi by Valorm Technologies

Building Financial Infrastructure for Ghana's Economic Future

Version 1.0 – Pre-Regulatory Submission

May 2025

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Important Regulatory Disclosure

As of May 2025, the True Ghana Cedi Stablecoin (tGHS) project has **not submitted formal applications** to the Bank of Ghana (BoG), Securities and Exchange Commission (SEC), or other Ghanaian regulatory authorities. All statements regarding regulatory processes, approvals, and timelines are **forward-looking** and contingent on future regulatory engagement. The implementation timeline assumes timely regulatory feedback and approvals, which may not occur as anticipated.

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Executive Summary

The True Ghana Cedi Stablecoin (tGHS) represents a significant advancement in digital financial infrastructure created by Ghanaians, for Ghanaians. Key elements include:

- **Phased Implementation**:
  - **Phase 1 (Q4 2025)**: Launch as an over-collateralized crypto-backed token (**tGHSX**).
  - **Phase 2 (Q1 2027)**: Transition to a fully bank-backed model (**tGHS**), pending regulatory approvals.
- **Transparent Reserves**: Real-time on-chain verification of crypto reserves and monthly reserve attestations.
- **Cost Efficiency**: Target fees **80% lower** than mobile money solutions (e.g., 0.5% for domestic transfers).
- **Enhanced Security**: Blockchain-based transactions reduce fraud by **up to 60%**.

Vision and Market Opportunity

Our Vision

- **Financial Inclusion**: Serve 11 million unbanked Ghanaians.
- **Financial Sovereignty**: Build technology aligned with Ghana's economic priorities.
- **Remittance Reduction**: Lower fees for diaspora remittances (current average: 7.8%).
- **CBDC Integration**: Create a compliant bridge for Ghana's future Central Bank Digital Currency (eCedi).

Market Opportunity

- **Digital Adoption**: 55% smartphone penetration (growing at 8% annually).
- **Youth Innovation**: 57% of the population is under 25, with high digital literacy.
- **SME Digitization**: 85% of businesses are SMEs, needing affordable payment solutions.
- **Government Support**: Aligned with Ghana's Digital Financial Services Policy.

Current Challenges Addressed

- **High Fees**: Bank transfers (1–2.5% domestically, 5–10% internationally).
- **Settlement Delays**: Cross-border payments take 2–5 days; tGHS aims for **minute-level settlements**.
- **Interoperability**: Fragmented mobile money systems; tGHS works with any **ERC-20 wallet**.

Technical Architecture

Blockchain Platform Selection

- **Polygon PoS**:
    - Near-zero gas fees (<$0.001 USD).
    - Ethereum compatibility and 65,000+ TPS throughput.
    - Environmental efficiency (vs. Proof-of-Work).
- **Backup**: Binance Smart Chain (BSC) for regulatory or network issues.

Smart Contract Implementation

- **Language**: Solidity 0.8.17+
- **Framework**: Hardhat with testing suite.
- **Key Components**:
```
string public name = "True Ghana Cedi Stablecoin";
string public symbol = "tGHS";
uint8 public decimals = 18;
```

- **Features**:
    - Pausable module (emergency circuit breaker).
    - AccessControl for permission management.
    - Compliance layer for regulatory requirements.

Stabilization Mechanism

Phased Collateralization Approach

Phase	Target Date	Details
Phase 1: Crypto-Backed MVP	Q4 2025	150% collateral (USDT, ETH, BTC), weekly audits.
Phase 2: Fiat-Backed Rollout	Q1 2027	1:1 fiat-backed with reserve attestations.

Compliance Framework

Regulatory Approach

- **Target Frameworks**:
    - Payment Systems and Services Act, 2019 (Act 987).
    - Anti-Money Laundering Act, 2020 (Act 1044).
    - Foreign Exchange Act, 2006 (Act 723).
- **Milestones**:
    - **Q3 2025**: Submit applications to BoG/SEC.
    - **Q2 2026**: Compliance infrastructure (KYC/AML).

KYC/AML Implementation

Tier	Verification Requirements	Transaction Limit
Tier 1	Basic KYC (ID verification)	5,000 GHS
Tier 2	Enhanced KYC (address proof)	50,000 GHS
Tier 3	Advanced KYC (video ID)	Unlimited

Governance Structure

Current Governance (Early Stage)

- Founder-led with public documentation and stakeholder feedback.

Evolution Plan

- **Phase 1 (2025–2026)**: Community feedback via GitHub/forums.
- **Phase 2 (2026–2027)**: Multi-signature reserve management.
- **Phase 3 (2027+)**: Token-weighted voting for community governance.

Roadmap

Phase	Target Dates	Key Deliverables
Phase 1: Crypto-Backed MVP	Q3 2025 – Q4 2025	Smart contracts, security audit, Chainlink integration.
Phase 2: Regulatory Engagement	Q1 2026 – Q3 2026	Regulatory submissions to BoG/SEC.
Phase 3: Fiat-Backed Launch	Q1 2027	Launch tGHS with reserve attestations.
Phase 4: National Adoption	Q2 2027 – Q3 2027	Merchant partnerships, wallet app.

Phase 5: Regional Expansion	Q4 2027+	ECOWAS integration, community governance.

Risks and Mitigation Strategies

Technical Risks

Risk	Probability	Impact	Mitigation
Smart contract vulnerabilities	Medium	High	Audits by ImmuneBytes/CertiK, $50K bug bounty.
Network congestion	Medium	Medium	Gas optimization, BSC contingency.

Regulatory Risks

Risk	Probability	Impact	Mitigation
Regulatory delays	High	Critical	6-month roadmap buffer, crypto-backed Phase 1.

Benefits of tGHS Over Mobile Money

Category	tGHS Advantage	Mobile Money
Security	Fraud reduction (up to 60%), immutable records.	Higher fraud rates, paper trails.
Cost	0.5% domestic fees.	1–3% domestic fees.
Speed	Cross-border settlements in minutes.	2–5 days.
Transparency	Real-time reserve audits, public dashboards.	Limited transparency.

Conclusion

The tGHS project prioritizes security, transparency, and cultural alignment to address Ghana's financial challenges. While regulatory approvals are pending, the phased roadmap ensures compliance and scalability.

Glossary

- **ERC-20**: Ethereum token standard.
- **HSM**: Hardware Security Module for key storage.
- **Multisig**: Multi-signature authorization.
- **Oracle**: Data feeds (e.g., Chainlink) for smart contracts.

References

- Bank of Ghana (2023). *Annual Report on Remittance Flows*.
- World Bank (2023). *Remittance Prices Worldwide Database*.

Disclaimer

This document is **Version 1.0 (May 2025)** and does not constitute financial advice. Regulatory approvals are pending.