cNGN:
A Compliant and Regulated Consortium Driven Stablecoin

cNGN Whitepaper

1. Abstract

Blockchains, or distributed ledgers, have quickly gained adoption as one of the most promising technologies to emerge in the last ten years. They bring the potential to maintain public, yet secure, ledgers of all sorts of data ranging from supply chains to voting records. Many governments and Fortune 500 companies have started dedicated blockchain divisions to leverage the technology; including CBN Naira and others.

One of the most promising uses of this new technology is its ability to act as an alternative payment rail. Similar to SWIFT, but available globally, more secure, and much faster at settling transactions. The Consortium Naira (cNGN) stablecoin emerged as an early leader in creating use-cases for the CBN Naira at launch.

The cNGN is tied directly to the value of the Naira. The cNGN is fully backed with one (1) Naira/Naira for every cNGN created and held by a Nigeria regulated Commercial bank for the benefit of cNGN token holders and the Nigerian economy. Given its interoperability with public blockchains, it can be transferred to holders anywhere in the world for an extremely low fee and can be redeemed for the underlying fiat Naira in compliance with KYC/AML regulations.

We are still in the early days of discovering the value that CBDC pegged stablecoins brings to the Nigerian economy.

2. What is stable coins

Stablecoin pegged to CBDC is still novel, in its simplest form, a 'stablecoin' can be viewed as a digital asset on a blockchain, that pegs its value to an external reference, typically fiat currencies. Stablecoins are designed to maintain a consistent value, typically by linkage to the value of a real-world asset.

The Federal Reserve classifies stablecoins into three (3) different groups:

	Types	Description	Examples
1	**Public reserve-backed:**	Backed by cash-equivalent reserves (deposits, T-bills, commercial paper), issued by centralized firms.	Tether, USD Coin (USDC), Binance USD (BUSD), Paxos Dollar (USDP)
2	**Public algorithmic**	Backed by overcollateralized cryptocurrency and/or smart contracts that automatically defend the peg by buying or selling the stablecoin.	Dai, TerraUSD, Fei, IRON (failed), Basis (failed).
3	**Private**	Issued by financial and non-financial institutions for internal account transactions, liquidity management, and transactions between user accounts within the same private network.	JPM Coin*

**tokenized deposits issued on permissioned blockchain*

cNGN falls under the first (1^{st}) category i.e. Public reserve-backed. This whitepaper will concentrate on this type of stablecoin.

In summary, "*A public reserve-backed stablecoin is a fully collateralized, transferable, and programmable digital token that could be redeemed for fiat money.*" (Source)

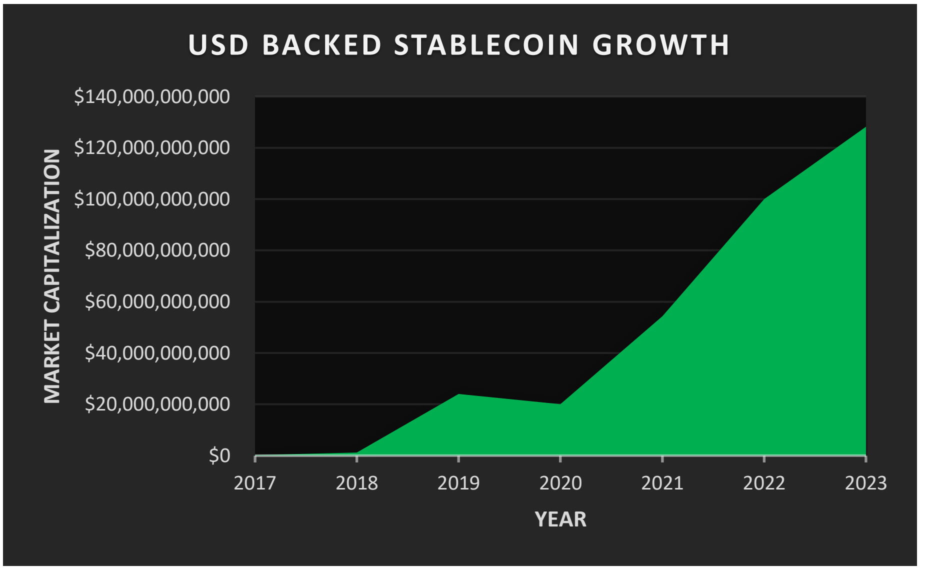
3. De-dollarization of the African Continent

The U.S. Government continues to push the adoption of USD-backed stablecoins like the USD Coin (USDC) and USD Tether (USDT) with the understanding that USD-backed stablecoins increase and cements the dominance of the US dollar.

> According to the Federal Reserve Bank of America:
> *"In the past year, USD-pegged stablecoins circulating on public blockchains have seen explosive growth, with a combined circulating supply of nearly $130 billion as of September 2021 — a more than 500% increase from one year ago"*

The U.S is dominating the stablecoin market, and that market is pushing USD dominance globally.
Fully backed stablecoins enable the Naira to be interoperable with public blockchains without risking the security and privacy infrastructure that are necessary components of a CBDC. As cNGN adoption spreads, the CBN will have real-time metadata into blockchain adoption and usage while increasing Nigeria's financial sovereignty.

The chart below highlights the dollarization of the cryptocurrency landscape which is currently around $130b of USD backed stablecoins in circulation. .



USD-pegged stablecoins by market capitalization growth rate. Data extends from 2017 through July 2023 based on calculation from public blockchains.

4. Introduction to cNGN

The consortium is an independent membership organization headquartered in Abuja, Nigeria. The consortium's purpose is to coordinate and provide a framework for governance for the network of organizations, treasury management and initiatives to support financial inclusion. The entirety of this whitepaper expatiates on this vision.

Members of the Consortium are leading organizations in banking, financial technology, compliance and regulation.

5. Use Cases

CBDC-pegged Stablecoins is a foundational process to a fully adopted CBDC in any country for a robust financial system. Wrapping the Naira offers the best qualities of digital assets and fiat currencies, it provides price stability, and a steady valuation while offering the security, utility, and decentralized features associated with digital assets, at the same time maintaining national financial sovereignty.

1

Retail Adoption

The cNGN enhances retail adoption of Naira by providing enhanced liquidity within the ecosystem. Users can seamlessly transact in Naira for PTA and BTA transactions, with the cNGN ensuring ample liquidity for these transactions. The seamless interoperability of the cNGN ensures compatibility with existing payment systems and Stablecoins, enabling smooth and convenient retail adoption. While ensuring regulatory compliance and transparency.

2

Remittance

At present, the costs associated with sending money from one country to another can be prohibitively high with fees often averaging more than 5% of the transferred asset's value. The Consortium Stablecoin will eliminate many of the fees charged by western companies serving as middlemen. This is a net positive for Nigeria and African governments as it allows for funds to be transferred back into local economies and not taken by foreign money remitters. It will enable the fast and inexpensive ability to remit money and facilitate Trade across Africa.

3

Financial Inclusion

cNGN will let people without a NGN bank account access Naira, since anyone with a mobile device and an internet connection can leverage Naira-backed cNGN to store and send money. This is important, since 1.2 billion adults in Africa were unbanked in 2017, including 36.8 million unbanked adults in Nigeria (or 36.8% of Nigerian adults.

4

Efficient money movement

cNGN removes friction from the process of sending money for a negligible fee, in a single transaction especially for international remittances. Compared to traditional wire transfers, cNGN transfers are instantaneous and cost effective—and can happen 24/7. This use case has yet to be fully taken advantage of owing to regulatory and compliance concerns but is happening on a small scale right now.

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5

Instantaneous B2B Settlement

Merchants and companies who accept cNGN can immediately access funds instead of waiting days for payments to land in their bank accounts from export or import activities. Instantaneous settlement of transactions eliminates high capital requirements and transaction fees across the entire payments value chain..

6

Enhanced Liquidity

The introduction of the cNGN can increase liquidity within the Naira ecosystem. As crypto-native users globally transact with the cNGN, it generates a network effect, attracting more participants and driving liquidity. Higher liquidity makes the Naira more appealing to users, as they can easily convert between cNGN and Naira as needed.

7 Seamless Interoperability

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8 Tokenized financial markets

cNGN can play a key role in tokenizing financial markets. This would entail converting securities into digital tokens on DLTs and trading and servicing them with cNGN. For delivery-versus-payment (DvP) transactions, such as security purchases, a tokenized market would allow for real-time settlement at very low costs. This would increase liquidity, transaction speeds, and transparency while reducing counterparty risk, trading costs, and other barriers to market participation. This would benefit asset classes, such as real estate, by allowing for fractional ownership of tokenized assets and more transparent price discovery. For payment-versus-payment (PvP) transactions, such as a cross-currency swap, tokenization would also allow for near-instantaneous execution instead of the market's current conventional T+2 framework, in which a swap's payments are settled two business days after the swap is struck.

5. Proof of Reserve

Capital

The Consortium will maintain accounts with Tier 1 Commercial banks holding its reserve assets - fully backing the cNGN maintaining liquidity, and honoring redemptions when due. The Consortium provides transparency and audits to verify the adequacy and security of the capital reserves.

Audit & Attestation:

cNGN and any other future tokenized currencies (cGHS, cRAND) will work with 3rd party accounting firms to provide frequent attestations to confirm the fiat reserves collateralizing each tokenized currency. From launch, the consortium will work with any of the 'Big 4' Audit firms, to verify that the funds backing cNGN are always held at a 1:1 ratio and that the consortium has made no material changes to the 'terms of service' that protects users.

In addition to the monthly attestations, the consortium will transition to a 'live attestation' dashboard. Through a partner that can offer such a service, cNGN holders will be able to view a real-time dashboard of cNGN funds, advancing transparency from months to minutes. It is our hope that the real-time confirmation dashboard will later replace the monthly attestations.

6. Technology

cNGN Minting and Redemption Process

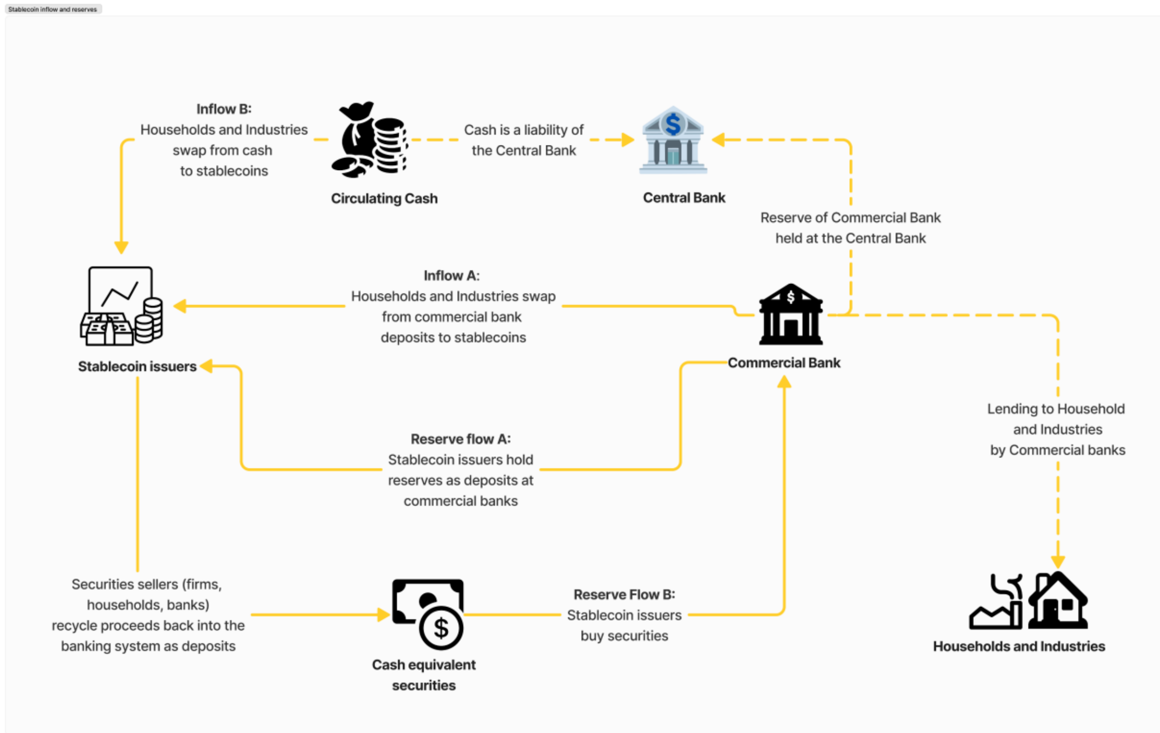
An important aspect of a fiat-collateralized stablecoin is the ability to readily redeem the underlying fiat currency consistently, without hassle, and in an inexpensive manner. With these facts in mind, the consortium will make the cNGN redemption process easy and affordable while complying with requisite AML/CFT compliance measures.

Blockchain Protocol

cNGN tokens are purposely designed with simplicity in mind. In exchange for 1 NGN, 1 cNGN is issued. Similarly, on redemption, 1 cNGN redeems 1 NGN. The exchange will always be one-to-one. Given the logical simplicity, this system can be written as a smart contract, ensuring that it operates under these rules in a programmed way.

The cNGN is issued on multiple blockchains (Bantu as base protocol, Ethereum, BNB Chain, Polygon and Tron) and dedicated Smart contracts manage the minting and redemption/burning of cNGN, which can be used for both the exchange and wallet interoperability use cases.

> Minting:
>
> Customers who onboard through a stablecoin on-ramp, such as a web application created and maintained by the consortium, can transfer fiat funds via Naira payment gateway to consortium managed Naira merchant wallet or into a consortium Bank account. Minting of cNGN is finalized if the transaction meets compliance and transaction rules to our base Blockchain protocol. The customer can then transfer the cNGN tokens to any desired platform using a public blockchain protocol that has a mirrored cNGN token smart contract.
>
> Redemption:
>
> Redemption follows the reverse sequence. Fiat tokens are burned when a customer visits an off-ramp such as a web application like the consortium's cNGN platform. Upon successful verification and validation, funds from underlying fiat reserves would be transferred to the customer's external bank account or CBDC Wallet



Stablecoin inflow and reserves

Let's take a look at this example:

Bob is a trader on digital asset exchanges, and he would like to purchase digital assets on exchanges that do not provide direct fiat connectivity to his local bank account, and he would also like to hedge his risk exposure to the volatility of digital assets on those exchanges by maintaining some of his holdings in the form of Naira tokens that do not fluctuate in value like other digital assets on such exchange

– Bob visits a web application created and maintained by the consortium

– Bob signs up for a customer account, which requires satisfying KYC requirements.

– A custodial MPC wallet is created for Bob on the web application with the hash needed to reconstruct the wallet private keys distributed amongst cloud key manager and Bob. This is needed for carrying out transactions like transferring of cNGN out of the platform.

– The deposit process begin in order to turn his fiat Naira into tokenized consortium Naira (cNGN). The deposit process requires Bob to transfer Naira fiat from his bank account/Wallet into the consortium CBDC wallet/bank account.

Once Bob's transfer settles,

The Consortium's application interacts with the relevant blockchain network to execute the process required to transmit cNGN tokens to Bob's wallet. These tokens may be taken from existing reserves from the consortium's buffer of pre-funded fiat assets to increase the speed of the process; if no such reserves are available, then the consortium mints new cNGN token on the Bantu Blockchain.

· Bob then receives the tokens, and the value of those tokens directly corresponds to the value of the funds he deposited into the system.

· Bob may transfer the cNGN or any fiat-pegged token to an address in a wallet or on an exchange using any of the other public blockchains supported by cNGN; BNB chain, Polygon, Tron or other onboarded network protocols so that he may use them to support his trading activity. The consortium maintains a blacklist of forbidden addresses in order to protect Bob and other network participants from known bad actors and to support regulatory compliance.

· When Bob -- or one of Bob's counterparties who may have acquired some of the CBDC pegged tokens -- wishes to redeem the tokens and withdraw the underlying fiat currency, then the process is executed in reverse: Bob returns to the issuing web application (consortium CBDC token site), deposits the tokens into a wallet address made available to his account on the web application, and consortium executes a transfer of underlying fiat reserves into Bob's registered bank account/ or designated wallet.

· After which the tokens so liquidated are either withdrawn from circulation, or placed in reserve to service future requests, or burned/destroyed if the value of those tokens surpasses the pre-funded fiat buffer maintained by the consortium. This process is subject to authentication and authorization, verification, validation, and compliance similar to the minting sequence.

7. Scepticism and Solution

Given extensive interactions with Central bankers, we noted several concerns and fears around stablecoin issuance, below are some noteworthy concerns

Monetary Policy Control: Central banks fear that stablecoins, especially those with global reach and wide adoption, could undermine their ability to control monetary policy. However, Public Reserve-Backed stablecoins are designed to maintain a stable value relative to a particular asset or currency, they could potentially limit the central bank's influence over interest rates, money supply, and inflation in Nigeria.

Financial Stability: Central banks believe stablecoins have the potential to disrupt the stability of the financial system. If there is rapid usage or sudden loss of confidence in a stablecoin. This could lead to liquidity problems and destabilization of financial markets. The risk for potential runs on stablecoins by users who seek to redeem their stable assets for traditional fiat, could put a massive strain on the underlying reserves and create a systemic risk that worries the Central banks.

Money Laundering and Illicit Activities: There are concerns about the potential misuse of stablecoins for money laundering, terrorism financing, and other illicit activities. The pseudonymous nature of some cryptocurrencies, including stablecoins, could make it difficult to track and regulate transactions effectively. Central banks are worried that the widespread adoption of stablecoins without proper regulatory oversight could compound these risks which may lead to economic and security instability.

Consumer Protection: The mandate to safeguard and ensure the interests of consumers and the stability of the payment system may not be provided by private stablecoins entities. Issues such as privacy, data security, fraud, dispute resolution, and transparency of operations are areas of concern for central banks.

Loss of Seigniorage: Seigniorage refers to the revenue earned by the central bank through the creation of money. They are worried that widespread adoption of stablecoins could reduce the ability to earn seigniorage, as the demand for traditional fiat currency may decline. Impacting the ability of the Central bank to fund essential functions and maintain the stability of the financial system.

Cross-Border Payments and Capital Flows: Stablecoins, especially those pegged to a specific currency i.e. Naira, could facilitate faster and cheaper cross-border payments. While this may be beneficial for users, central banks are concerned about the potential impact on their control over capital flows and the stability of exchange rates. Unregulated cross-border transactions through stablecoins could bypass existing regulations and disrupt foreign exchange markets.

To address these fears and challenges, central banks are actively studying and exploring the potential for central bank digital currencies (CBDCs) as an alternative to stablecoins. CBDCs would allow central banks to maintain control over monetary policy, ensure regulatory compliance, and provide a secure and efficient payment system.

To address the fears and challenges associated with stablecoins, several measures can be taken which are not limited to:

- Regulatory Framework: Implementing a tailored, clear and comprehensive regulatory framework specifically suited for stablecoins and their technological uniqueness with domain expert insights can help address concerns related to consumer protection, money laundering, and illicit activities. Regulatory measures for KYC (Know Your Customer), AML (Anti-Money Laundering) compliance, Wallet screening, Sanction Screening, Politically Exposed People (PEP), Wallet Address Monitoring, data privacy, operational transparency, and dispute resolution mechanisms.

- Supervision and Oversight: Setting up robust supervision and oversight mechanisms for periodic audits, reserve requirements, and reporting standards can help ensure compliance and good financial practice among stablecoin issuers.

- Reserve Requirements and Transparency: Requiring audited and sufficient stablecoin reserves maintain the value, stability, and confidence of the issuer. Transparency of reserves through blockchain explorers and periodic public disclosures of backing assets infuse the assurance that the stablecoin has sufficient quality to users and financial regulators.

- Interoperability and Standards: Incentivising Traditional financial and stablecoin rails assimilation will lead to improved interoperability standards, which would prevent fragmentation, and continuous compatibility, and promote seamless cross-border regulatory cooperation.

- Central Bank Digital Currency (CBDC) Integration: Exploring avenues for integration between stablecoins and central bank digital currencies (CBDCs) can leverage the benefits of both systems. Collaboration between stablecoin issuers and central banks can ensure regulatory compliance, enhance the stability of the financial system, and maintain control over monetary policy.

- International Cooperation: Encouraging international cooperation and coordination among central banks, regulatory authorities, and international organizations can help address the global nature of stablecoins. Collaboration on regulatory standards, information sharing, and best practices can minimize regulatory arbitrage and ensure consistent oversight across jurisdictions.

- Public Education and Awareness: Highlighting the risks, benefits, and regulatory protections as it relates to stablecoins through public education and awareness campaigns will help mitigate risks. Users will understand the difference between Stablecoins and traditional currency, and the importance of choosing regulated and reputable stablecoin providers.

The approach to regulating stablecoins should strike a balance between fostering innovation and protecting financial stability, consumer rights, and the integrity of the monetary system.

8. Consortium CBDC Pegged Stablecoin Code of Ethics

The creation of Stablecoins is a foundational pillar for the blockchain-based financial system. A well-implemented stablecoin can serve as a medium of exchange for a new ecosystem of financial contracts, applications, and businesses.

But until recently, digital assets markets have been hurt by a lack of trustworthy fiat-backed stablecoins. While there has been a surge of new stablecoin projects across the world, there has not yet been an industry-wide dialogue about what it will take for a CBDC fiat-backed stablecoin to be trusted as an integral part of the industry's infrastructure.

While specific approaches may vary, there are at least a few lessons from the past that CBDC-pegged stablecoins should not repeat.

In short, the core pillars of this code of ethics include:

1. Fully Backed - Every token will have the equivalent CBDC fiat value stored in the bank to back it.
2. Stable - The market should recognize the inherent value of 1:1 of the stablecoin as being equal to the price of the underlying currency.
3. Redeemable - We will never prevent or discourage legitimate redemptions from verified customers.
4. Compliant - We will ensure the long-term survival of the CBDC Pegged stablecoin through regulatory compliance.

9. Compliance

- As a legally registered company, we are fully compliant with the Bank Secrecy Act (BSA)/Office of Foreign Assets Control (OFAC) and Know Your Customer (KYC)/Anti-Money Laundering (AML) laws. A risk-based compliance program has been implemented that is designed to comply with these applicable requirements.

- Consortium requests personal identification information and documentation from persons or entities and contracts with multiple third parties to verify and validate customer information including screening the names against various sanctions lists. Once all KYC/AML checks have been completed, the person or entity's account is created on the platform.

- A third-party vendor performs fund origination verification on all persons or entities. This includes ensuring wires or checks submitted by the customer are in the name of the account holder, should the names and address not match, transfers are returned.

- From time to time, the consortium might reach out to an existing customer for additional information or documentation. Should this additional information or documentation not be sufficient, the consortium will not allow the customer to continue transacting on the platform.

- In addition to identity verification and source-of-funds validation, we utilize a third party to perform OFAC and other sanctions watch-list checks on all persons or entities. consortium will not be doing business with any person or entity appearing on such a watch list.

10. Risk

We establish a robust governance and transparency structure for the CNGN which includes clear decision-making processes, transparency in operations, and regular reporting to stakeholders. This will ensure accountability and reduce the risk of mismanagement or fraud.
We provide adequate collateralisation with our E-naira capital or reserves in the bank, ensuring that the collateralisation is sufficient to maintain the stability and value of the CNGN.

We implement robust security measures to protect the CNGN infrastructure, wallets, and user funds. We shall be utilizing secure and tested smart contracts, multi-factor authentication, encryption, regular security audits, and secure storage solutions.

- Regulatory Compliance: We keep abreast with the updated regulatory requirements and comply with applicable laws, such as AML and KYC regulations, consumer protection laws, and financial regulations. Engage legal counsel with expertise in cryptocurrencies to ensure compliance with the evolving regulatory landscape.

- Regular Audits and Transparency Reports: We conduct regular audits for the CNGN operations, financials, and reserves. Publish transparency reports that provide stakeholders with insights into the CNGN operations, reserves, and compliance efforts. Engage reputable and independent auditing firms for thorough assessments.

- Disaster Recovery and Contingency Plans: We developed robust disaster recovery and contingency plans for CNGN to handle emergencies, cybersecurity incidents, or unexpected events. Maintain backups of critical data, implement redundancy measures, and have clear procedures to mitigate and recover from disruptions.

11. MARKETING COMMUNICATION, AND ADVERTISING MESSAGES.

- Accurate and Transparent Messaging: CNGN marketing communication and advertising messages will be accurate, clear, and transparent for all our users to avoid making exaggerated claims or misleading statements about the CNGN features, benefits, or potential returns.

- Educational Approach: We will focus on educating our target audience about the CNGN's purpose, benefits, and mechanics. Also help users understand how the CNGN can be used, its stability, and its potential value proposition.

- Risk Disclosure: All the risks associated with the CNGN will be clearly disclosed. We will ensure that users understand the potential risks involved in using or investing in the CNGN.

- Compliance with Regulations: We ensure that all marketing and advertising efforts comply with applicable advertising regulations, including financial, securities, and consumer protection laws.

- Targeted Messaging: We Tailor CNGN marketing messages to the appropriate audience. Also, consider the level of knowledge and familiarity with cryptocurrencies when crafting the messaging.

- Trust and Security: CNGN uses security features, such as robust encryption, transparency of reserves, and two-factor authentication to adhere strictly to industry best practices.

- Transparency Reports: We will share regular transparency reports that provide insights into the CNGN operations, reserve holdings, and compliance efforts with all our users and investors.

- Professionalism and Ethical Practices: We maintain the highest level of professionalism and ethical standard in all marketing and advertising materials, to avoid deceptive practices, false information, or aggressive marketing tactics that could mislead or manipulate users and investors.

- Clear Disclosures and Disclaimers: We Include clear disclosures and disclaimers in marketing materials, such as terms of use, privacy policies, and risk warnings. Ensure that users can easily access and understand important information about the CNGN.

- Compliance with Advertising Platforms: CNGN will ensure compliance with specific policies and guidelines regarding cryptocurrencies and financial products while using advertising platforms like traditional media, social media or search engines.

- Ongoing Communication: CNGN will maintain open and responsive communication channels with users, Investors and the community to Address questions, concerns, and feedback promptly and transparently.

12. Conclusion

We have seen an incredible amount of interest in our project and CBDC Pegged stablecoins more broadly. There is still a large amount of whitespace in front of us in terms of what CBDC stablecoins can enable.

We look forward to the coming months and years of building out cNGN and our entire suite of tokenized currencies and additional assets as countries roll out their respective CBDC projects.

Questions: uyoyo@withconvexity.com
adedeji@withconvexity.com