MiCA White Paper

Koinos (KOIN)

Version 1.0
June 2025

White Paper in accordance with Markets in Crypto Assets Regulation (MiCAR) for the European Economic Area (EEA).

Purpose: seeking admission to trading in EEA.

Prepared and Filed by LCX.com

NOTE: THIS CRYPTO-ASSET WHITE PAPER HAS NOT BEEN APPROVED BY ANY COMPETENT AUTHORITY IN ANY MEMBER STATE OF THE EUROPEAN ECONOMIC AREA. THE PERSON SEEKING ADMISSION TO TRADING IS SOLELY RESPONSIBLE FOR THE CONTENT OF THIS CRYPTO-ASSET WHITE PAPER ACCORDING TO THE EUROPEAN ECONOMIC AREA'S MARKETS IN CRYPTO-ASSET REGULATION (MICA).

LCX is voluntarily filing a **MiCA-compliant whitepaper for Koinos (KOIN)**, even though KOIN is classified as "Other Crypto-Assets" under the Markets in Crypto-Assets Regulation (MiCA). Unlike Asset-Referenced Tokens (ARTs), Electronic Money Tokens (EMTs), or Utility Tokens, Koinos does not legally require a MiCA whitepaper. However, MiCA allows service providers to publish a whitepaper voluntarily to enhance transparency, regulatory clarity, and investor confidence. As one of the most innovative blockchain networks, Koinos plays a critical role in the Web3 ecosystem, offering feeless transactions, upgradable smart contracts, and a modular microservice architecture that enhances scalability and usability. Koinos's unique Proof-of-Burn (PoB) consensus mechanism allows decentralized block production without energy-intensive mining, ensuring an efficient and decentralized approach to network security. By enabling fast, flexible, and developer-friendly blockchain applications, Koinos provides a seamless environment for dApps, DeFi, NFTs, and decentralized social platforms.

This document provides essential information about KOIN's characteristics, risks, and the framework under which LCX facilitates KOIN-related services in compliance with MiCA's regulatory standards.

This white paper has been prepared in accordance with the requirements set forth in Commission Implementing Regulation (EU) 2024/2984, ensuring that all relevant reporting formats, content specifications, and machine-readable structures outlined in Annex I of this regulation have been fully mapped and implemented, particularly reflected through the Recitals, to enable proper notification under the Markets in Crypto-Assets Regulation (MiCAR).

00 TABLE OF CONTENT

01 DATE OF NOTIFICATION

2025-06-04

COMPLIANCE STATEMENTS

02 This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Economic Area. The offeror of the crypto-asset is solely responsible for the content of this crypto-asset white paper.

Where relevant in accordance with Article 6(3), second subparagraph of Regulation (EU) 2023/1114, reference shall be made to ‘person seeking admission to trading’ or to ‘operator of the trading platform’ instead of ‘offeror’.

03 This crypto-asset white paper complies with Title II of Regulation (EU) 2023/1114 and, to the best of the knowledge of the management body, the information presented in the crypto-asset white paper is fair, clear and not misleading and the crypto-asset white paper makes no omission likely to affect its import.

04 The crypto-asset referred to in this white paper may lose its value in part or in full, may not always be transferable and may not be liquid.

05 Not Applicable

06 The crypto-asset referred to in this white paper is not covered by the investor compensation schemes under Directive 97/9/EC of the European Parliament and of the Council.The crypto-asset referred to in this white paper is not covered by the deposit guarantee schemes under Directive 2014/49/EU of the European Parliament and of the Council.

SUMMARY

07 Warning

This summary should be read as an introduction to the crypto-asset white paper. The prospective holder should base any decision to purchase this crypto-asset on the content of the crypto-asset white paper as a whole and not on the summary alone. The offer to the public of this crypto-asset does not constitute an offer or solicitation to purchase financial instruments and any such offer or solicitation can be made only by means of a prospectus or other offer documents pursuant to the applicable national law.

This crypto-asset white paper does not constitute a prospectus as referred to in Regulation (EU) 2017/1129 of the European Parliament and of the Council (36) or any other offer document pursuant to Union or national law.

08 Characteristics of the crypto-asset

Koinos's native token KOIN is a utility token that powers the Koinos blockchain, which is the world's first free-to-use, feeless Layer-1 blockchain. KOIN's primary functions are to grant access to network resources (via the innovative "Mana" system that lets users transact without spending tokens) and to participate in network consensus (users can burn KOIN to obtain Virtual Hash Power (VHP) for block production). KOIN has no inherent governance or ownership rights in a legal entity; its utility is technical, enabling transactions, smart contract execution, and securing the network. Holders do not receive any dividends or fixed income, and there are no redemption or asset-backed features – the token's value derives solely from its use within the Koinos ecosystem.

09 Not applicable

10 Key information about the offer to the public or admission to trading

KOIN is a decentralized, open-market crypto-asset, and there is no centralized issuer conducting a public sale. The Koinos token was distributed via a fair launch mining process, and no new public offering is taking place. This white paper is prepared in compliance with MiCA to facilitate admission of KOIN to trading on LCX Exchange and to provide transparency.

KOIN is already widely circulating and traded on global markets; thus, this document does not announce a new token issuance or fundraising, but rather provides essential information for its trading under the MiCA framework.

Total offer amount	Not applicable
Total number of tokens to be offered to the public	Not applicable
Subscription period	Not applicable
Minimum and maximum subscription amount	Not applicable
Issue price	Not applicable
Subscription fees (if any)	Not applicable
Target holders of tokens	Not applicable
Description of offer phases	Not applicable

CASP responsible for placing the token (if any)	Not applicable
Form of placement	Not applicable
Admission to trading	LCX AG, Herrengasse 6, 9490 Vaduz, Liechtenstein

A. PART A - INFORMATION ABOUT THE OFFEROR OR THE PERSON SEEKING ADMISSION TO TRADING

A.1 Name

LCX

A.2 Legal Form

AG

A.3 Registered Address

Herrengasse 6, 9490 Vaduz, Liechtenstein

A.4 Head Office

Herrengasse 6, 9490 Vaduz, Liechtenstein

A.5 Registration Date

24.04.2018

A.6 Legal Entity Identifier

529900SN07Z6RTX8R418

A.7 Another Identifier Required Pursuant to Applicable National Law

FL-0002.580.678-2

A.8 Contact Telephone Number

+423 235 40 15

A.9 E-mail Address

legal@lcx.com

A.10 Response Time (Days)

020

A.11 Parent Company

Not applicable

A.12 Members of the Management Body

Full Name	Business Address	Function
Monty C. M. Metzger	Herrengasse 6, 9490 Vaduz, Liechtenstein	President of the Board
Katarina Metzger	Herrengasse 6, 9490 Vaduz, Liechtenstein	Board Member
Anurag Verma	Herrengasse 6, 9490 Vaduz, Liechtenstein	Director of Technology

A.13 Business Activity

LCX provides various crypto-asset services under Liechtenstein's Token and Trusted Technology Service Provider Act ("Token- und Vertrauenswürdige Technologie-Dienstleister-Gesetz" in short "TVTG") also known as the Blockchain Act. These include custody and administration of crypto-assets, offering secure storage for clients' assets and private keys. LCX operates a trading platform, facilitating the matching of buy and sell orders for crypto-assets. It enables both crypto-to-fiat and crypto-to-crypto exchanges, ensuring compliance with AML and KYC regulations. LCX also supports token placements, marketing crypto-assets on behalf of offerors.

Under MiCA, LCX is classified as a Crypto-Asset Service Provider (CASP). LCX is not yet formally supervised under MiCA until the license is granted by the competent authority. LCX AG has applied for

MiCA licensing on February 1, 2025, the first day of MiCA's implementation in Liechtenstein.

Under the TVTG framework, LCX provides:

- TT Depositary – Custody and safekeeping of crypto-assets.
- TT Trading Platform Operator – Operation of a regulated crypto-asset exchange.
- TT Exchange Service Provider – Crypto-to-fiat and crypto-to-crypto exchange.
- Token Issuer – Marketing and distribution of tokens.
- TT Transfer Service Provider – Crypto-asset transfers between ledger addresses.
- Token Generator & Tokenization Service Provider – Creation and issuance of tokens.
- Physical Validator – Enforcement of token-based rights on TT systems.
- TT Verification & Identity Service Provider – Legal capacity verification and identity registration.
- TT Price Service Provider – Providing aggregated crypto-asset price information.

A.14 Parent Company Business Activity

Not applicable

A.15 Newly Established

false

A.16 Financial Condition for the past three Years

LCX AG has a strong capital base, with CHF 1 million (approx. 1,126,000 USD) in share capital (Stammkapital) and a solid equity position (Eigenkapital) in 2023. The company has experienced fluctuations in financial performance over the past three years, reflecting the dynamic nature of the crypto market. While LCX AG recorded a loss in 2022, primarily due to a market downturn and a security breach, it successfully covered the impact through reserves. The company has remained financially stable, achieving revenues and profits in 2021, 2023 and 2024 while maintaining break-even operations.

In 2023 and 2024, LCX AG strengthened its operational efficiency, expanded its business activities, and upheld a stable financial position. Looking ahead to 2025, the company anticipates positive financial development, supported by market uptrends, an inflow of customer funds, and strong business performance. Increased adoption of digital assets and service expansion are expected to drive higher revenues and profitability, further reinforcing LCX AG’s financial position.

A.17 Financial Condition Since Registration

LCX AG has been financially stable since its registration, supported by CHF 1 million in share capital (Stammkapital) and continuous business growth. Since its inception, the company has expanded its operations, secured multiple regulatory registrations, and established itself as a key player in the crypto and blockchain industry.

While market conditions have fluctuated, LCX AG has maintained strong revenues and break-even operations. The company has consistently reinvested in its platform, technology, and regulatory compliance, ensuring long-term sustainability. The LCX Token has been a fundamental part of the ecosystem, with a market capitalization of approximately $200 million USD and an all-time high exceeding $500 million USD in 2022. Looking ahead, LCX AG anticipates continued financial growth, driven by market uptrends, increased adoption of digital assets, and expanding business activities.

B. PART B - INFORMATION ABOUT THE ISSUER, IF DIFFERENT FROM THE OFFEROR OR PERSON SEEKING ADMISSION TO TRADING

B.1 Issuer different from offeror or person seeking admission to trading

false

B.2 Name

Not applicable

B.3 Legal Form

Not applicable

B.4 Registered Address

Not applicable

B.5 Head Office

Not applicable

B.6 Registration Date

Not applicable

B.7 Legal Entity Identifier

Not applicable

B.8 Another Identifier Required Pursuant to Applicable National Law

Not applicable

B.9 Parent Company

Not applicable

B.10 Members of the Management Body

Not applicable

B.11 Business Activity

Not applicable

B.12 Parent Company Business Activity

Not applicable

C. PART C - INFORMATION ABOUT THE OPERATOR OF THE TRADING PLATFORM IN CASES WHERE IT DRAWS UP THE CRYPTO-ASSET WHITE PAPER AND INFORMATION ABOUT OTHER PERSONS DRAWING THE CRYPTO-ASSET WHITE PAPER PURSUANT TO ARTICLE 6(1), SECOND SUBPARAGRAPH, OF REGULATION (EU) 2023/1114

C.1 Name

LCX AG

C.2 Legal Form

AG

C.3 Registered Address

Herrengasse 6, 9490 Vaduz, Liechtenstein

C.4 Head Office

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C.5 Registration Date

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C.7 Another Identifier Required Pursuant to Applicable National Law

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C.8 Parent Company

Not Applicable

C.9 Reason for Crypto-Asset White Paper Preparation

LCX is voluntarily preparing this MiCA-compliant whitepaper for Koinos (KOIN) to enhance transparency, regulatory clarity, and investor confidence. While KOINOS does not require a MiCA whitepaper due to its classification as "Other Crypto-Assets", LCX is providing this document to support its role as a Crypto-Asset Service Provider (CASP) and ensure compliance with MiCA regulations in facilitating KOIN trading on its platform.

C.10 Members of the Management Body

Full Name	Business Address	Function
Monty C. M. Metzger	Herrengasse 6, 9490 Vaduz, Liechtenstein	President of the Board
Katarina Metzger	Herrengasse 6, 9490 Vaduz, Liechtenstein	Board Member
Anurag Verma	Herrengasse 6, 9490 Vaduz, Liechtenstein	Director of Technology

C.11 Operator Business Activity

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- TT Verification & Identity Service Provider – Legal capacity verification and identity registration.
- TT Price Service Provider – Providing aggregated crypto-asset price information.

C.12 Parent Company Business Activity

Not Applicable

C.13 Other persons drawing up the white paper under Article 6 (1) second subparagraph MiCA

Not Applicable

C.14 Reason for drawing up the white paper under Article 6 (1) second subparagraph MiCA

Not Applicable

D. PART D - INFORMATION ABOUT THE CRYPTO-ASSET PROJECT

D.1 Crypto-Asset Project Name

Koinos

D.2 Crypto-Assets Name

Koinos

D.3 Abbreviation

Koin

D.4 Crypto-Asset Project Description

Koinos is a general-purpose, layer-1 blockchain network designed to be flexible, modular, and accessible. Its distinguishing feature is that it is feeless and free-to-use for end-users, thanks to the Mana system which allows blockchain resource usage without spending tokens (Mana acts like bandwidth that regenerates over time). The Koinos blockchain is built on a modern microservices architecture, enabling high customizability and upgradeability of core blockchain logic via smart contracts (even governance and consensus can be upgraded without hard forks).Koinos aims to provide a Web2-like user experience on Web3, meaning decentralized applications (dApps) on Koinos can be used by anyone without upfront barriers (no need to purchase gas tokens). The network supports smart contracts in multiple programming languages (via WebAssembly, developers can write contracts in C++, TypeScript/AssemblyScript, and more).In summary, Koinos is an evolving blockchain project focusing on usability, developer friendliness, and decentralization.

D.5 Details of all persons involved in the implementation of the crypto-asset project

Koinos is an open-source blockchain with no central issuer. It is maintained by a decentralized network of developers, validators, node operators, and users worldwide. The Koinos Foundation and other independent contributors drive its development.

Full Name	Business Address	Function
Andrew Levine	*Not applicable*	*Co-founder & Early Developer*
Koinos Foundation	*Global*	*Development & Ecosystem Support*
Koinos Core Developers	*Global*	*Software Development & Maintenance*
Koinos Validators	*Global*	*Transaction Validation & Security (PoS)*
Koinos Node Operators	*Global*	*Network Verification & Governance*

D.6 Utility Token Classification

false

D.7 Key Features of Goods/Services for Utility Token Projects

Not applicable

D.8 Plans for the Token

Not applicable

D.9 Resource Allocation

Not applicable

D.10 Planned Use of Collected Funds or Crypto-Assets

Not applicable

E. PART E - INFORMATION ABOUT THE OFFER TO THE PUBLIC OF CRYPTO-ASSETS OR THEIR ADMISSION TO TRADING

E.1 Public Offering or Admission to Trading

ATTR

E.2 Reasons for Public Offer or Admission to Trading

The admission of KOIN to trading on LCX's platform is driven by user interest and LCX's goal to provide a diverse range of quality crypto-assets. Koinos is a technologically innovative project with a growing community, and listing KOIN supports the development of its ecosystem by improving liquidity and accessibility. Additionally, LCX seeks to be among the first regulated exchanges to list emerging tokens under MiCA's regime, demonstrating compliance and transparency. In short, the reason is to provide a compliant marketplace for KOIN within the EU/EEA, enabling investors to trade it with confidence in a regulated environment.

E.3 Fundraising Target

Not applicable

E.4 Minimum Subscription Goals

Not applicable

E.5 Maximum Subscription Goal

Not applicable

E.6 Oversubscription Acceptance

Not applicable

E.7 Oversubscription Allocation

Not applicable

E.8 Issue Price

Not applicable

E.9 Official Currency or Any Other Crypto-Assets Determining the Issue Price

Not applicable

E.10 Subscription Fee

Not applicable

E.11 Offer Price Determination Method

Not applicable

E.12 Total Number of Offered/Traded Crypto-Assets

The total supply of KOIN at genesis was about 99.74 million KOIN (mined during the initial PoW phase) and as of 2025 the circulating supply is slightly higher due to block rewards (approximately ~105 million, given 2% yearly inflation). All circulating KOIN are potentially available for trading.In summary, no new tokens are created for this admission; the existing supply is traded peer-to-peer.

E.13 Targeted Holders

ALL

E.14 Holder Restrictions

Not applicable

E.15 Reimbursement Notice

Not applicable

E.16 Refund Mechanism

Not applicable

E.17 Refund Timeline

Not applicable

E.18 Offer Phases

Not applicable

E.19 Early Purchase Discount

Not applicable

E.20 Time-Limited Offer

Not applicable

E.21 Subscription Period Beginning

Not applicable

E.22 Subscription Period End

Not applicable

E.23 Safeguarding Arrangements for Offered Funds/Crypto-Assets

Not applicable

E.24 Payment Methods for Crypto-Asset Purchase

Not applicable

E.25 Value Transfer Methods for Reimbursement

Not applicable

E.26 Right of Withdrawal

Not applicable

E.27 Transfer of Purchased Crypto-Assets

Not applicable

E.28 Transfer Time Schedule

Not applicable

E.29 Purchaser's Technical Requirements

Not applicable

E.30 Crypto-asset service provider (CASP) name

Not applicable

E.31 CASP identifier

Not applicable

E.32 Placement Form

NTAV

E.33 Trading Platforms name

LCX AG

E.34 Trading Platforms Market Identifier Code (MIC)

LCXE

E.35 Trading Platforms Access

KOIN is widely traded on numerous cryptocurrency exchanges globally (both regulated and unregulated). As a decentralized asset, KOIN is not confined to any single trading venue; it can be accessed by retail and institutional investors worldwide through dozens of exchanges. LCX Exchange now supports KOIN trading (pair KOIN/EUR). To access KOIN trading on LCX, users must have an LCX account and complete the platform's KYC verification, as LCX operates under strict compliance standards. Trading on LCX is available via its web interface and APIs to verified customers.

E.36 Involved Costs

Not applicable

E.37 Offer Expenses

Not applicable

E.38 Conflicts of Interest

Not applicable

E.39 Applicable Law

Not applicable – KOIN as a crypto-asset itself is not governed by any specific national law or jurisdiction. Koinos is a decentralized network that operates on a global scale, and KOIN tokens exist on the blockchain independent of legal jurisdiction. There is no contractual framework (like an investment contract or debt instrument) attached to KOIN that would be subject to a governing law clause.

E.40 Competent Court

In case of disputes related to services provided by LCX, the competent court is: The Courts of Liechtenstein, with jurisdiction in accordance with Liechtenstein law and applicable EU regulations.

F. PART F - INFORMATION ABOUT THE CRYPTO-ASSETS

F.1 Crypto-Asset Type

Other Crypto-Asset

F.2 Crypto-Asset Functionality

KOIN serves as the fundamental utility token of the Koinos blockchain, granting access to network resources through its unique Mana system. Each KOIN token carries a certain amount of Mana, which is consumed to cover transaction and smart contract execution costs instead of traditional fees. When users interact with dApps or perform transactions, Mana is expended, temporarily locking the corresponding KOIN. Over time, typically up to five days, Mana regenerates, allowing continuous use of the network without requiring repeated token expenditures. This innovative mechanism helps prevent spam while maintaining a seamless, fee-less user experience.

KOIN also plays a vital role in securing the Koinos blockchain through Proof-of-Burn (PoB) mining. Participants, commonly referred to as block producers, permanently burn a portion of their KOIN to obtain Virtual Hash Power (VHP), which determines their probability of successfully producing a block. Those who successfully add blocks to the chain receive newly minted KOIN as a reward, with a portion of their VHP being converted back into KOIN. This mechanism ensures that miners have a vested interest in network security, as they must sacrifice their tokens to earn future rewards, reinforcing decentralization and security.

Beyond its network utility, KOIN functions as a medium of exchange within the Koinos ecosystem, facilitating payments for goods, services, and dApp interactions.

F.3 Planned Application of Functionalities

KOIN is already fully integrated and functional in the Koinos mainnet. The above-mentioned functionalities are active: users utilize Mana for transactions daily, and block producers are running the Proof-of-Burn consensus now. There are no new functionalities planned for KOIN in the near term beyond its current roles. The token will continue to be used:

- as the resource token (Mana carrier) for all transactions and smart contract executions on Koinos,
- as the staking/burning asset for block production,
- and as the base token for any economic activities on the chain (DeFi, NFTs, etc., if those emerge on Koinos).

F.4 Type of white paper

OTHR

F.5 The type of submission

NEWT

F.6 Crypto-Asset Characteristics

KOIN is a decentralized, permissionless blockchain token with the following key characteristics:

- Native Blockchain Asset: KOIN is the native asset of the Koinos blockchain, a standalone L1 network. It is not an ERC-20 or token on another chain; it exists on its own blockchain ledger maintained by Koinos nodes.
- Technology Platform: The Koinos blockchain uses a unique microservice-based architecture and WebAssembly smart contracts for flexibility.It achieves fast confirmation times (~3 second block time) providing near real-time transaction finalized
- Consensus Mechanism: Koinos utilizes Proof-of-Burn (PoB), which is a variation of Proof-of-Stake. Instead of locking tokens, participants permanently burn tokens to gain mining power, combining the security principles of PoW with the energy efficiency of PoS. This

means KOIN is not mined via energy-intensive hashing; no specialized hardware is needed, and even a standard laptop can run a node effectively.

- Supply and Inflation: KOIN had a fair launch with an initial supply of ~99.74 million mined by the community. New KOIN is continuously created at a fixed rate of 2% per year of the supply as block rewards to incentivize network security.T
- Divisibility: KOIN is divisible into tiny units (the smallest unit is often called a “fraction” in Koinos, akin to “satoshi” for Bitcoin). The exact decimal precision is 8 decimal places (0.00000001 KOIN), enabling microtransactions.
- Transferability: KOIN can be freely transferred between Koinos addresses (accounts) on-chain. Transactions typically finalize within one block (~3 seconds). There are no fees required from the sender due to Mana, though if the sender lacks Mana (i.e., holds no KOIN or all KOIN’s Mana is depleted), they cannot transact until Mana regenerates or is delegated to them.
- Interoperability: Currently, KOIN’s primary environment is the Koinos network itself. Bridges to other blockchains might exist or be developed (for example, community bridges to Ethereum or Binance Chain) to allow wrapped KOIN to trade elsewhere. On its native chain, KOIN interacts seamlessly with Koinos smart contracts and accounts.
- Legal Status: KOIN does not represent equity, debt, or claim in any corporate entity. It is simply a digital asset governed by open-source software rules. It is not legal tender, and its regulatory classification (utility token) reflects that it’s intended for network use rather than investment contract – although investors may still treat it as speculative.

F.7 Commercial name or trading name

Koin

F.8 Website of the issuer

Not applicable

F.9 Starting date of offer to the public or admission to trading

2025-07-08

F.10 Publication date

2025-07-08

F.11 Any other services provided by the issuer

Not applicable

F.12 Language or languages of the white paper

English

F.13 Digital Token Identifier Code used to uniquely identify the crypto-asset or each of the several crypto assets to which the white paper relates, where available

Not applicable. KOIN does not have a DTI or similar ISO standard code. Once a formal identifier be assigned in the future under ISO standards, that will be updated

F.14 Functionally Fungible Group Digital Token Identifier, where available

Not applicable

F.15 Voluntary data flag

true

F.16 Personal data flag

false

F.17 LEI eligibility

false

F.18 Home Member State

Liechtenstein

F.19 Host Member States

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

G. PART G - INFORMATION ON THE RIGHTS AND OBLIGATIONS ATTACHED TO THE CRYPTO-ASSETS

G.1 Purchaser Rights and Obligations

Purchasers or holders of KOIN do not acquire any specific contractual rights or legal claims against an issuer or anyone else by holding the token. KOIN is a decentralized network token, not a share or debt instrument; therefore, owning KOIN grants no governance rights in a legal entity, no entitlement to dividends, profits, or any form of interest, and no claim on any underlying assets or collateral.

G.2 Exercise of Rights and Obligation

Because holding KOIN does not bestow contractual rights, there is no traditional “exercise” of rights as one might have with a security or utility token tied to services. The rights that do exist (use of the network) are exercised simply by using the token: e.g. To participate in consensus, a holder calls the appropriate smart contract function to burn KOIN for VHP, then runs a mining node to start producing blocks. The network autonomously enforces these rights and obligations – there is no centralized party to petition.

G.3 Conditions for Modifications of Rights and Obligations

Since there are no formal contractual rights attached to KOIN, modifications in the “rights and obligations” sense mostly pertain to changes in the protocol rules of the Koinos network. Any changes to how KOIN works , the Koinos blockchain can be upgraded via its on-chain governance mechanisms (the blockchain is upgradable through consensus of node operators running new system smart contracts). If, for instance, the community decided to implement a change to how Mana works or introduce a voting system for KOIN, those would effectively modify what token holders can do.

G.4 Future Public Offers

Not applicable

G.5 Issuer Retained Crypto-Assets

Not applicable

G.6 Utility Token Classification

No

G.7 Key Features of Goods/Services of Utility Tokens

Not applicable

G.8 Utility Tokens Redemption

Not applicable

G.9 Non-Trading Request

True

G.10 Crypto-Assets Purchase or Sale Modalities

Not applicable

G.11 Crypto-Assets Transfer Restrictions

Not applicable

G.12 Supply Adjustment Protocols

KOIN’s supply is governed by the protocol:

- Inflation (Minting): New KOIN is minted at a fixed rate of 2% per year of the total supply as block rewardsThis is an ongoing inflationary issuance to reward block producers (network validators). The protocol automatically adds KOIN to the block producer’s balance each block (~every 3 seconds a small fraction of the 2% annual yield). This increases supply gradually and predictably.

- Burning: On the other side, KOIN is burned by participants converting it to VHP to compete for blocks. When KOIN is burned, it is removed from circulation (and replaced by VHP which is not tradable). Over time, as those block producers mine blocks, some of that VHP is converted back into KOIN as part of the reward mechanism. Essentially, burning introduces a deflationary pressure (reducing circulating supply during the period KOIN is in VHP form).
- No Manual Supply Control: There is no mechanism for anyone to arbitrarily change the supply (no pause of inflation, no additional minting beyond the rule, no burn other than voluntary by users). The parameters (2% inflation) could only change via a network upgrade agreed by the community.
- Outstanding vs Virtual Supply: The concept of virtual supply (KOIN + VHP) is used internally to calculate consistent rewards.But from a holder perspective, only KOIN matters. The “outstanding supply” can fluctuate slightly if some KOIN remains unclaimed (from the initial mining, a small amount wasn’t claimed and is effectively out of circulation until claimed or forever).

G.13 Supply Adjustment Mechanisms

The Koinos consensus software mints new KOIN each block according to a formula (roughly, 2%/year distributed per block) and grants it to the block producer’s address. This is coded in the blockchain’s system contracts.

- The Proof-of-Burn mechanism is implemented as a system smart contract where a user can call an action to burn a specified amount of their KOIN, which issues an equivalent amount of VHP to them. VHP is tracked in the consensus and influences the probability of that user mining the next block (like stake weight).
- Each time a block is produced, the protocol deducts some amount of VHP from the block producer (representing “consumption” of their stake power) and converts a portion of that VHP back into KOIN (this portion plus the fixed inflation constitute the block reward)Over a long period, a miner who continuously produces blocks could recover much of their burned KOIN via these trickle-back conversions, but if they stop producing, any remaining VHP will eventually decay with no KOIN returned.
- No external mechanisms: There is no external peg or reserve affecting KOIN supply. The community cannot “mint” new KOIN outside of block rewards, nor is there any sort of treasury that injects or removes tokens. All adjustments are intrinsic to consensus rules.
- These mechanisms together ensure KOIN’s supply is managed in a fully decentralized and predictable manner, striking a balance between rewarding network security and limiting token supply growth (2% inflation is relatively low, and burning by miners often offsets some of that in circulating terms).

G.14 Token Value Protection Schemes

False

G.15 Token Value Protection Schemes Description

Not Applicable

G.16 Compensation Schemes

False

G.17 Compensation Schemes Description

Not Applicable

G.18 Applicable Law

Not applicable – As previously noted, Koinos (KOIN) is not governed by any specific national contract or securities law as an instrument. The rights of KOIN holders are defined by code (Koinos protocol) and not by a contract enforceable in court.

G.19 Competent Court

Not applicable - As Koinos (KOIN) is a decentralized, open-source crypto-asset with no central issuer or governing entity, it does not fall under the jurisdiction of any specific legal framework.

In case of disputes related to services provided by LCX, the competent court is: The Courts of Liechtenstein, with jurisdiction in accordance with Liechtenstein law and applicable EU regulations.

H. PART H – INFORMATION ON THE UNDERLYING TECHNOLOGY

H.1 Distributed ledger technology

Koinos uses a proprietary public distributed ledger known as the Koinos blockchain. It is a decentralized network of nodes (computers) that collectively maintain and update the ledger of transactions and smart contract state. The ledger is permissionless, meaning anyone can run a node or interact with the network without a central authority's approval. Koinos's DLT is not built on top of another chain; it is its own blockchain protocol, created from the ground up (monolithic L1 architecture).

The ledger data (blockchain) is replicated across all full nodes in the network. Every time a new block is produced (every 3 seconds), it is propagated to the network and appended to the ledger, assuming it follows consensus rules. The Koinos ledger is designed to be scalable and upgradable: its modular structure allows changes in the ledger's rules through on-chain governance (as opposed to hard forking a completely new chain). This DLT provides typical blockchain properties: transparency (all transactions are public), immutability (confirmed blocks are extremely difficult to revert, especially after finality), and security through cryptographic verification.

Koinos Whitepaper: https://koinos.io/whitepaper

Public block explorer: https://koinosblocks.com/

Koinos Main repository: https://github.com/koinos

Koinos Developer portal: https://docs.koinos.io/developers/

H.2 Protocols and Technical Standards

Koinos leverages several key protocols and standards within its architecture:

- Blockchain Protocol: Koinos has its own protocol defining block structure, transaction format, and consensus (Proof-of-Burn). It doesn't follow Bitcoin or Ethereum protocols directly, but conceptually it's closest to a smart contract platform blockchain protocol.
- Networking: It likely uses standard P2P networking protocols for node communication. (Specifics: possibly TCP/UDP based gossip; not publicly documented here, but similar to other blockchains.)
- Smart Contracts: Koinos smart contracts run on WebAssembly (WASM), following WASM standards for execution. This allows contracts to be written in any WASM-compatible language (C++, TypeScript, etc.).The system contracts (governing core blockchain behavior) are also WASM modules.
- Serialization: Data in Koinos (blocks, transactions) is serialized using Google Protocol Buffers (Protobuf). a well-known data interchange format. This ensures efficient and standardized encoding/decoding of data structures across nodes.
- Inter-process Communication: Within Koinos node software (which is split into microservices), Koinos uses the AMQP (Advanced Message Queuing Protocol) for message passing between microservices. This is an industry standard protocol for messaging, ensuring reliable communication between components.
- Cryptography Standards: Koinos likely uses standard elliptic curve cryptography (such as secp256k1, the curve used by Bitcoin/Ethereum) for public/private keys and digital signatures,

enabling users to sign transactions. Hashing algorithms (possibly SHA-2 or SHA-3 family) are used for creating block hashes and ensuring data integrity.

- Token Standard: As a native coin, KOIN doesn't follow an external token standard like ERC-20 (that's for tokens on Ethereum). Instead, it's inherent to the Koinos ledger. However, if Koinos supports user-issued tokens (like fungible tokens on Koinos), there might be a standard contract interface for that (not covered here).
- API and SDK: Koinos provides gRPC or HTTP APIs for developers to interact with nodes (likely via Protobuf-defined interfaces). It also has SDKs leveraging these protocols.
- Consensus Algorithm Standard: Proof-of-Burn is unique, but it builds on standard proof-of-stake concepts. It might use algorithms like VRF (Verifiable Random Function) or sortition to select block producers among those with VHP – these details align with known consensus research but are implemented specifically for Koinos.

Overall, Koinos adheres to open technical standards where possible (WASM, Protobuf, AMQP, etc.) to maximize compatibility and performance.The use of these standards means developers and users interact with Koinos using familiar formats and protocols, reducing learning curves and integration effort.

H.3 Technology Used

The technology stack of Koinos is modern and modular:

- Core Implementation: The blockchain nodes are implemented in C++ (for performance-critical components) with a microservice architecture. This means the node is split into modules (e.g., P2P networking, block production, chain database, JSON-RPC API, etc.) that communicate via an internal bus (AMQP)
- Smart Contract Engine: Koinos uses a WebAssembly virtual machine as its contract engine. This means any logic on the blockchain (other than the minimal kernel) runs in a sandboxed WASM environment. This design makes the blockchain VM-agnostic: new languages can be supported by compiling to WASM. Currently, C++ and TypeScript (AssemblyScript) are supported for writing Koinos contracts, with potential for Rust or others.
- Upgradability: Uniquely, Koinos implements major blockchain logic (like the consensus rules, resource management, governance) as system smart contracts that run on the blockchain itself (with privileged access). This means that upgrading the blockchain's rules is as simple as deploying a new version of a system contract (with appropriate consensus approval) rather than coordinating a hard fork. This tech approach eliminates downtime for upgrades and allows the chain to evolve quickly.
- Microservice Architecture: By leveraging microservices and message queues, Koinos can scale vertically – meaning components can run in parallel or even on different machines, theoretically making it easier to scale certain aspects (like transaction pool, mempool, etc.). It also makes the codebase more maintainable by separating concerns.
- Database: The ledger data might be stored in an efficient key-value store database (perhaps RocksDB or similar) in each node for state and block storage.
- Client Interfaces: There are likely command-line interfaces and libraries for interacting with Koinos. For example, the Koinos CLI or GUI wallets utilize the node's RPC calls. The network also has block explorers and dashboards created by the community to monitor transactions and blocks.
- Security Design: The use of battle-tested cryptographic primitives (ECDSA signatures, etc.) and memory-safe contract execution via WASM helps minimize vulnerabilities. There is no mining equipment, which removes certain attack vectors (like 51% by renting hash power). Instead, attacks would require acquiring and burning large amounts of KOIN, which is costly and self-harming economically.
- External Integrations: Bridges or oracles are external to Koinos's base tech but can be built via smart contracts. For instance, bridging KOIN to Ethereum was achieved by community efforts (using a wrapped token). Those integrations use standard cryptographic proofs and relays.

In summary, Koinos uses a combination of custom blockchain design and standard tech components to create a flexible blockchain infrastructure. It stands out by being one of the first blockchains to integrate all core logic in smart contracts and by focusing on free usability.

H.4 Consensus Mechanism

Koinos's consensus is Proof-of-Burn (PoB), a novel mechanism merging concepts from proof-of-work and proof-of-stake:

- Participants (potential block producers) burn KOIN tokens to obtain Virtual Hash Power (VHP).The more KOIN one burns, the more VHP one has, which increases their probability of being selected to produce the next block.

- The network likely uses a random selection algorithm among VHP holders (similar to how proof-of-stake might randomly select a staker weighted by stake). Since VHP is not a transferable token but an internal metric, one must irreversibly sacrifice economic value (KOIN) to gain influence. This creates a strong economic incentive: only those committed to the network (willing to burn value) can consistently produce blocks.

- When a node wins the right to produce a block, it creates the block and broadcasts it. If the block is valid and accepted by others, the protocol mints the block reward (new KOIN) to that producer and also converts a portion of their VHP back into KOIN.This effectively "refunds" some of their burned stake over time.

- Over a series of blocks, a miner could recoup most of their burned tokens through block rewards, but if they stop producing (or produce invalid blocks), their VHP will not yield KOIN and will eventually be lost (since VHP decays only through block production or maybe expiration).

- This mechanism ensures Sybil resistance and security: to attack (monopolize block production), one would have to burn an enormous amount of KOIN, incurring a high cost. Even if they succeed for a time, the network inflation goes to them and partially restores their KOIN, but if they double-spend or act maliciously, the community could fork or slash them (the specifics of slashing in PoB are not documented, but one could imagine social coordination to ignore a bad actor).

- The consensus algorithm is energy-efficient – unlike PoW, it doesn't require continuous high-power hashing. Nodes can run on ordinary hardware, basically just doing cryptographic signatures and basic computations. The "work" is burning value, not burning electricity.

- Finality: Koinos likely uses longest-chain rule or similar Nakamoto-style consensus (with the twist of PoB selection). It might not have immediate finality, but given the short block time and relatively low probability of forks, transactions confirm quickly. The network might consider a transaction final after a certain number of blocks (confirmations) make it extremely costly to revert.

- The security of PoB is analogous to PoS: it's secured by economic stake. One difference: in PoS, stake is locked and can potentially be slashed by protocol if misbehaving; in PoB, the stake is burned upfront, so an attacker has already paid the cost. There isn't a slashing mechanism needed – an attacker's cost is the burnt KOIN which they only regain by honest mining. If they try to double-sign or fork, they don't get additional rewards, having wasted their tokens.

In summary, Proof-of-Burn provides Koinos with robust security without high energy usage.It requires miners to convert economic value into network security. This consensus is still new relative to more battle-tested PoW/PoS, but it has the advantage that it democratizes mining (no specialized hardware, anyone can burn tokens) and aligns long-term incentives (miners prosper by keeping the network healthy so that their block rewards have value).

H.5 Incentive Mechanisms and Applicable Fees

The incentive mechanism of the Koinos blockchain is designed to align economic rewards with network security and usability, primarily through block rewards and burn-based mining incentives. Block producers, commonly referred to as miners, receive newly minted KOIN as block rewards, with a controlled 2% annual inflation rate distributed across block production. This serves as the primary financial incentive for running a node and participating in Proof-of-Burn (PoB) mining, where miners must burn KOIN to obtain Virtual Hash Power (VHP), increasing their probability of producing blocks and earning rewards.

Unlike traditional blockchain networks, Koinos does not rely on transaction fees to compensate miners. Instead, it uses the Mana system, which allows users to transact without spending KOIN, as Mana regenerates over time. Since miners do not receive direct transaction fees, the protocol balances this by maintaining a consistent block reward structure to ensure mining remains profitable. Users who lack sufficient Mana may rent or delegate Mana from other KOIN holders, potentially introducing off-chain economic incentives for Mana delegation markets, where users or dApp developers may pay KOIN holders to borrow their Mana.

Another key incentive mechanism is burn incentives, where miners permanently burn KOIN to gain VHP, making them more likely to produce blocks and earn rewards. This creates a self-regulating economic model—as more participants burn KOIN, mining competition increases, reducing the circulating supply, which can drive up token value. If fewer miners participate, the probability of earning rewards increases, encouraging new participation and stabilizing the network.

Koinos also eliminates traditional gas fees, meaning there are no costs for deploying smart contracts beyond Mana consumption. The only implicit cost to users is the opportunity cost of temporarily locking their KOIN when using Mana, as it regenerates before being available for transfer.

Overall, the economic security of Koinos is built around aligning miner incentives with network health. Miners are rewarded in KOIN, ensuring their financial interests are tied to the token's value. Meanwhile, the fee-free Mana model encourages broader adoption and network activity, indirectly benefiting miners by increasing blockchain usage and overall demand for KOIN.

H.6 Use of Distributed Ledger Technology

False

H.7 DLT Functionality Description

Not applicable

H.8 Audit

False

H.9 Audit Outcome

Not applicable

I. PART I – INFORMATION ON RISKS

I.1 Offer-Related Risks

The admission to trading of Koinos (KOIN) is subject to risks related to market volatility, regulatory developments, and trading conditions. While KOIN is actively traded on global exchanges and generally has high liquidity, its price can fluctuate significantly due to factors such as macroeconomic conditions, investor sentiment, technological advancements, and speculative trading activity.

Liquidity risks may arise from changing market conditions, regulatory actions, or exchange delistings, which could impact the ease of buying or selling KOIN at expected prices. Additionally, regulatory developments in different jurisdictions may introduce new compliance obligations, trading restrictions, or limitations on market access, potentially affecting the availability of KOIN for trading.

Broader financial and cryptocurrency market risks, such as systemic downturns, operational failures of key exchanges, or security breaches, could further impact trading stability. As the regulatory landscape evolves, there is a risk that new legal requirements or enforcement actions could affect KOIN's trading status, influencing investor access and market conditions.

I.2 Issuer-Related Risks

Koinos does not have a central issuer comparable to a company that could default or become insolvent, as would be the case with traditional securities or debt instruments. However, the broader Koinos ecosystem involves various entities, stakeholders, and infrastructure providers whose actions or inactions could introduce risks.

Regulatory and Legal Uncertainty: While Koinos itself is a decentralized blockchain, the regulatory treatment of exchanges, custodians, staking services, and decentralized applications (dApps) built on Koinos varies across jurisdictions. Changes in legal frameworks may impact the accessibility, trading, and use of Koinos, potentially affecting liquidity and market stability.

Network Governance and Protocol Risks: Koinos's protocol upgrades and governance decisions are primarily influenced by core developers, the validator community. While this model allows for rapid innovation and network improvements, governance decisions may be subject to disagreements, delays, or unexpected changes in network rules. In certain scenarios, network-wide upgrades could introduce unintended technical issues or lead to forks if consensus is not reached.

Security and Technological Risks: KOIN's high-performance architecture and smart contract execution capabilities introduce technical complexity and security considerations. Vulnerabilities in smart contract code, validator software, or underlying cryptographic mechanisms could lead to exploits, financial losses, or network disruptions. Additionally, advancements in quantum computing or other emerging technologies could pose long-term risks to Koinos's cryptographic security model if not mitigated through future upgrades.

I.3 Crypto-Assets-Related Risks

Koinos (KOIN) is a decentralized digital asset with no central issuer, reducing risks typically associated with centrally controlled crypto-assets. However, trading, holding, and using KOIN involves several inherent risks.

Market Risk: The price of KOIN is significantly impacted by macroeconomic trends, investor sentiment, regulatory developments, and technological advancements, making it highly volatile and subject to substantial gains or losses. Additionally, trading conditions may be affected by overall financial market instability or changes in demand for digital assets.

Liquidity Risk: Typically robust liquidity of KOIN across prominent exchanges and decentralized finance platforms, market access and trading volumes are subject to potential influence by extreme market conditions, regulatory measures, or revisions to exchange policies. Such factors may consequently precipitate augmented price slippage or transient illiquidity.

Regulatory and Taxation Risks: Koinos operates across multiple regulatory jurisdictions, each with varying rules on taxation, securities classification, and compliance requirements. Future regulatory developments could impact the use of KOIN in DeFi, staking, or smart contract applications, potentially leading to new legal obligations, restrictions, or enforcement actions affecting asset utility and adoption.

Smart Contract and Protocol Risks: Koinos supports decentralized applications (dApps) and smart contracts, which introduces risks associated with software vulnerabilities, coding errors, and potential exploits. Flaws in smart contracts or protocol-level logic may lead to security breaches, financial losses, or disruptions in network functionality.

Network Security and Governance Risks: The stability and security of the Koinos network depend on its validator network, governance model, and upgrade processes. Potential risks include validator centralization, governance disputes over protocol changes, or unforeseen security vulnerabilities affecting smart contract execution. These factors could impact network reliability or raise concerns about decentralization and control.

Quantum Computing Threats: Advances in quantum computing may pose long-term risks to cryptographic security, potentially affecting key management, transaction signing mechanisms, and overall network integrity. While current cryptographic standards remain secure, ongoing research and potential future upgrades may be required to mitigate emerging threats.

I.4 Project Implementation-Related Risks

Koinos, as a decentralized, open-source blockchain, relies on continuous protocol upgrades, validator participation, and network optimizations to maintain performance and adoption. However, several implementation risks may affect its scalability, governance, and technical execution.

Protocol Development and Upgrade Risks: Network upgrades on Koinos necessitate substantial agreement among validators and developers. If consensus is not achieved, delays, software bugs or governance disputes could affect upgrade rollouts, potentially causing network inefficiencies or temporary forks. Moreover, unforeseen software failures within protocol updates could also introduce security vulnerabilities or disrupt transaction processing.

Scalability and Network Performance Challenges: Although Koinos is built to handle high transaction volumes, previous congestion events have revealed scalability limitations during peak demand periods. If transaction volumes continue to outpace infrastructure enhancements, the network may experience recurring issues such as latency, failed transactions, or fee spikes.

Security Risks in Network Upgrades: Potential risks are introduced when changes are made to Koinos's core protocol. These risks may include unintended software bugs, consensus mechanism vulnerabilities, or validator synchronization issues. The introduction of a critical flaw through an upgrade could necessitate rapid patches or rollbacks, potentially causing disruptions in transaction processing.

I.5 Technology-Related Risks

- Bugs and Vulnerabilities: As with any complex software, Koinos could harbor unknown bugs. These could range from minor (causing node crashes) to critical (consensus flaws, economic exploits). A worst-case bug might allow an attacker to mint unlimited KOIN or halt the chain. While no such issues are known, the possibility exists. If an exploit were found and leveraged, it could devastate trust in KOIN (even if eventually fixed).

- 51% Attack / Censorship: In Proof-of-Burn, an attacker would need to burn a majority of the active stake to control the chain. While extremely costly, it's not impossible if someone (or a cartel) is willing to sacrifice a lot of money (perhaps to sabotage the project). If they did, they could censor transactions, cause reorgs, or double-spend.Such an event would disrupt network operation and likely crash the token value.

- Network Attacks: Other attacks include DDoS on nodes, spamming the network (Mana helps limit spam, but an attacker with a large KOIN reserve could spam until their Mana is depleted repeatedly, possibly causing performance issues for others). If node software has not been optimized, heavy load might cause slowdowns.

- Quantum Computing Risk: This affects all blockchains that use current cryptography. If quantum computers became capable of breaking ECDSA signatures, Koinos addresses could be compromised. The likelihood is low in the near term, and mitigations (quantum-resistant upgrades) could be deployed if the threat becomes realistic.

- Dependency Risks: Koinos relies on third-party libraries (like WASM engines, cryptography libs). If vulnerabilities are found in those, Koinos might be indirectly affected. Similarly, if there's a bug in Protobuf processing or AMQP that can be exploited, an attacker might crash nodes through malformed data. Keeping up with security patches is essential.

- Key Management for Users: Many risks lie on the user side: if holders don't secure their private keys, they can lose funds (through hacks, phishing, or simply losing the key). That's not a flaw in Koinos itself, but it's a risk to any holder. We include it because widespread user key loss or theft (say a malware that targets Koinos wallets) could harm confidence and circulating supply distribution.

I.6 Mitigation Measures

- Technical Mitigations: The Koinos team and community take a proactive approach to security: extensive testing and iterative releases were done. The code is open for review by anyone, inviting white-hat feedback. The modular design means any discovered bug in a subsystem can potentially be fixed without overhauling the entire system (e.g., upgrade a faulty contract or swap out a microservice).

- Upgradeability: Koinos's upgradeable system contracts serve as a mitigation – in case of a flaw in consensus or token logic, the community can deploy a fix quickly, avoiding long vulnerability windows. This reduces the impact of bugs compared to blockchains that require hard forks scheduled weeks out. However, emergency upgrades still require quick consensus among node operators to adopt the patch.

- Economic Design: Proof-of-Burn inherently disincentivizes attacks because one must self-inflict economic loss to attempt them. This means the barrier to attack is high and mostly irrational unless strongly motivated by non-monetary goals. The hope is that no attacker is willing to burn tens of millions of dollars worth of KOIN only to harm the network, especially since the network being harmed would also make the attacker's tokens worthless, a self-defeating outcome.

- Decentralization: As more people participate in mining (burning smaller amounts and perhaps joining pools, the network becomes more decentralized in block production, mitigating risk of any single entity gaining too much power. Outreach and community building are ongoing to grow the set of participants.

- Market Mitigation: Listing on a regulated exchange can improve the market awareness and reliabilities.

- Community & Governance: To mitigate governance and project risks, the Koinos community emphasizes being community-owned. No central authority means less risk of one party making a bad decision for all. The flip side is slower decision-making, but efforts are made to establish communication channels (forums, Discord, improvement proposals) to achieve consensus on changes. This collaborative culture helps prevent contentious splits.

- Education: The project invests in educating users (via documentation, this white paper, blog posts like KOIN overview) about how to use Koinos safely (like how Mana works, so they don't panic when tokens lock for a few days) and security best practices (protecting keys). Informed users are less likely to suffer losses, which overall strengthens the ecosystem.

J. PART J - INFORMATION ON THE SUSTAINABILITY INDICATORS IN RELATION TO ADVERSE IMPACT ON THE CLIMATE AND OTHER ENVIRONMENT-RELATED ADVERSE IMPACTS

Adverse impacts on climate and other environment-related adverse impacts.

J.1 Mandatory information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism

Koinos's consensus mechanism (Proof-of-Burn) is designed to be highly energy-efficient, resulting in a relatively low climate impact compared to traditional Proof-of-Work blockchains. Since Koinos does not rely on miners performing intensive computations, its electricity consumption is minimal. Block producers can run a Koinos node on standard consumer hardware (even a laptop) without significant power usage

There is no need for energy-hungry ASIC machines or GPU farms. The principal environmental footprint of Koinos comes from: the electricity used by the network's nodes (which is comparable to running regular servers or PCs).The manufacturing and eventual disposal of the hardware those nodes run on (which is marginal since no special hardware is required – reusing general-purpose computers).

By eliminating the "needless computational work" of mining, Koinos drastically cuts down on carbon emissions that a comparable network (if it were Proof-of-Work) would generate. For perspective, a single Bitcoin transaction currently carries a large carbon footprint due to the power expended by miners globally; a Koinos transaction's footprint is essentially the fraction of a node's power over a few seconds, which is negligible (likely on the order of milliwatt-hours).

General information	
S.1 Name *Name reported in field A.1*	LCX
S.2 Relevant legal entity identifier Identifier referred to in field A.2	529900SN07Z6RTX8R418
S.3 Name of the crypto-asset Name of the crypto-asset, as reported in field D.2	Koinos
S.4 Consensus Mechanism The consensus mechanism, as reported in field H.4	Koinos's consensus is Proof-of-Burn (PoB), a novel mechanism merging concepts from proof-of-work and proof-of-stake: Participants (potential block producers) burn KOIN tokens to obtain Virtual Hash Power (VHP).The more KOIN one burns, the more VHP one has, which increases their probability of being selected to produce the next block. The network likely uses a random selection algorithm among VHP holders (similar to how

	proof-of-stake might randomly select a staker weighted by stake). Since VHP is not a transferable token but an internal metric, one must irreversibly sacrifice economic value (KOIN) to gain influence. This creates a strong economic incentive: only those committed to the network (willing to burn value) can consistently produce blocks. When a node wins the right to produce a block, it creates the block and broadcasts it. If the block is valid and accepted by others, the protocol mints the block reward (new KOIN) to that producer and also converts a portion of their VHP back into KOIN.This effectively “refunds” some of their burned stake over time. Over a series of blocks, a miner could recoup most of their burned tokens through block rewards, but if they stop producing (or produce invalid blocks), their VHP will not yield KOIN and will eventually be lost (since VHP decays only through block production or maybe expiration). This mechanism ensures Sybil resistance and security: to attack (monopolize block production), one would have to burn an enormous amount of KOIN, incurring a high cost. Even if they succeed for a time, the network inflation goes to them and partially restores their KOIN, but if they double-spend or act maliciously, the community could fork or slash them (the specifics of slashing in PoB are not documented, but one could imagine social coordination to ignore a bad actor). The consensus algorithm is energy-efficient – unlike PoW, it doesn’t require continuous high-power hashing. Nodes can run on ordinary hardware, basically just doing cryptographic signatures and basic computations. The “work” is burning value, not burning electricity. Finality: Koinos likely uses longest-chain rule or similar Nakamoto-style consensus (with the twist of PoB selection). It might not have immediate finality, but given the short block time and relatively low probability of forks, transactions confirm quickly. The network might consider a transaction final after a certain number of blocks (confirmations) make it extremely costly to revert The security of PoB is analogous to PoS: it’s secured by economic stake. One difference: in PoS, stake is locked and can potentially be slashed by protocol if misbehaving; in PoB, the stake is burned upfront, so an attacker has already paid the cost. There isn’t a slashing mechanism needed – an attacker’s cost is the burnt KOIN which they only regain by honest

	mining. If they try to double-sign or fork, they don't get additional rewards, having wasted their tokens.
S.5 Incentive Mechanisms and Applicable Fees Incentive mechanisms to secure transactions and any fees applicable, as reported in field H.5	The incentive mechanism of the Koinos blockchain is designed to align economic rewards with network security and usability, primarily through block rewards and burn-based mining incentives. Block producers, commonly referred to as miners, receive newly minted KOIN as block rewards, with a controlled 2% annual inflation rate distributed across block production. This serves as the primary financial incentive for running a node and participating in Proof-of-Burn (PoB) mining, where miners must burn KOIN to obtain Virtual Hash Power (VHP), increasing their probability of producing blocks and earning rewards. Unlike traditional blockchain networks, Koinos does not rely on transaction fees to compensate miners. Instead, it uses the Mana system, which allows users to transact without spending KOIN, as Mana regenerates over time. Since miners do not receive direct transaction fees, the protocol balances this by maintaining a consistent block reward structure to ensure mining remains profitable. Users who lack sufficient Mana may rent or delegate Mana from other KOIN holders, potentially introducing off-chain economic incentives for Mana delegation markets, where users or dApp developers may pay KOIN holders to borrow their Mana. Another key incentive mechanism is burn incentives, where miners permanently burn KOIN to gain VHP, making them more likely to produce blocks and earn rewards. This creates a self-regulating economic model—as more participants burn KOIN, mining competition increases, reducing the circulating supply, which can drive up token value. If fewer miners participate, the probability of earning rewards increases, encouraging new participation and stabilizing the network.
S.6 Beginning of the period to which the disclosure relates	2024-03-06
S.7 End of the period to which the disclosure relates	2025-03-06
Mandatory key indicator on energy consumption	
S.8 Energy consumption Total amount of energy used for the validation of transactions and the maintenance of the integrity of the	5.49823 kWh per year

distributed ledger of transactions, expressed per calendar year	
Sources and methodologies	
S.9 Energy consumption sources and Methodologies Sources and methodologies used in relation to the information reported in field S.8	For the calculation of energy consumptions, the so called "bottom-up" approach is being used. The nodes are considered to be the central factor for the energy consumption of the network. These assumptions are made on the basis of empirical findings through the use of public information sites, open-source crawlers and crawlers developed in-house. The main determinants for estimating the hardware used within the network are the requirements for operating the client software. The energy consumption of the hardware devices was measured in certified test laboratories. When calculating the energy consumption, we used - if available - the Functionally Fungible Group Digital Token Identifier (FFG DTI) to determine all implementations of the asset of question in scope and we update the mappings regulary, based on data of the Digital Token Identifier Foundation.

J.2 Supplementary information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism

Supplementary key indicators on energy and GHG emissions	
S.10 Renewable energy consumption Share of energy used generated from renewable sources, expressed as a percentage of the total amount of energy used per calendar year, for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions.	14.770208242%
S.11 Energy intensity Average amount of energy used per validated transaction	0.00000 kWh
S.12 Scope 1 DLT GHG emissions – Controlled Scope 1 GHG emissions per calendar year for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions	0.00 tCO2e per year
S.13 Scope 2 DLT GHG emissions – Purchased Scope 2 GHG emissions, expressed in tCO2e per calendar year for the validation of transactions and the	1873.14310 tCO2e/a

maintenance of the integrity of the distributed ledger of transactions	
S.14 GHG intensity Average GHG emissions (scope 1 and scope 2) per validated transaction	0.00000 kgCO2e per transaction
Sources and methodologies	
S.15 Key energy sources and methodologies Sources and methodologies used in relation to the information reported in fields S.10 and S.11	To determine the proportion of renewable energy usage, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from the European Environment Agency (EEA) and thus determined.
S.16 Key GHG sources and methodologies Sources and methodologies used in relation to the information reported in fields S.12, S.13 and S.14	To determine the GHG Emissions, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from the European Environment Agency (EEA) and thus determined.