CRYPTO RISK METRICS
DON'T TRUST. VERIFY.

White paper drafted under the European Markets in Crypto-Assets Regulation (EU) 2023/1114 for FFG LZ3V3Z6FD

Preamble

00. Table of Contents

01. Date of notification

2025-10-24

02. Statement in accordance with Article 6(3) of Regulation (EU) 2023/1114

This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Union. The person seeking admission to trading of the crypto-asset is solely responsible for the content of this crypto-asset white paper.

03. Compliance statement in accordance with Article 6(6) of Regulation (EU) 2023/1114

This crypto-asset white paper complies with Title II of Regulation (EU) 2023/1114 of the European Parliament and of the Council 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. Statement in accordance with Article 6(5), points (a), (b), (c), of Regulation (EU) 2023/1114

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

05. Statement in accordance with Article 6(5), point (d), of Regulation (EU) 2023/1114

Since the token has multiple functions (hybrid token), these are already conceptually not utility tokens within the meaning of the MiCAR within the definition of Article 3, 1. (9), due to the necessity “exclusively” being intended to provide access to a good or a service supplied by its issuer only.

06. Statement in accordance with Article 6(5), points (e) and (f), of Regulation (EU) 2023/1114

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 or the deposit guarantee schemes under Directive 2014/49/EU of the European Parliament and of the Council.

Summary

07. Warning in accordance with Article 6(7), second subparagraph, of Regulation (EU) 2023/1114

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 or any other offer document pursuant to union or national law.

08. Characteristics of the crypto-asset

The CAKE tokens referred to in this white paper are crypto-assets other than EMTs and ARTs, and are issued on the Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum, Aptos and BNB Smart Chain blockchain (2025-10-20 and according to DTI FFG shown in F.14) with a total number of 450,000,000 token.

PancakeSwap was founded by a group of anonymous developers in September 2020.

09. Information about the quality and quantity of goods or services to which the utility tokens give access and restrictions on the transferability

Not applicable.

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

Crypto Risk Metrics GmbH is seeking admission to trading on any Crypto Asset Service Provider platform in the European Union in accordance to Article 5 of REGULATION (EU) 2023/1114 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937. In accordance to Article 5(4), this crypto-asset white paper may be used by entities admitting the token to trading after Crypto Risk Metrics GmbH as the person responsible for drawing up such white paper has given its consent to its use in writing to the repective Crypto Asset Service Provider.

Part A – Information about the offeror or the person seeking admission to trading

A.1 Name

Crypto Risk Metrics GmbH

A.2 Legal form

2HBR

A.3 Registered address

DE, Lange Reihe 73, 20099 Hamburg, Germany

A.4 Head office

Not applicable.

A.5 Registration date

2018-12-03

A.6 Legal entity identifier

39120077M9TG0O1FE242

A.7 Another identifier required pursuant to applicable national law

Crypto Risk Metrics GmbH is registered with the commercial register in the the city of Hamburg, Germany, under number HRB 154488.

A.8 Contact telephone number

+4915144974120

A.9 E-mail address

info@crypto-risk-metrics.com

A.10 Response time (Days)

030

A.11 Parent company

Not applicable.

A.12 Members of the management body

Name	Position	Address
Tim Zölitz	Chairman	Lange Reihe 73, 20099 Hamburg, Germany

A.13 Business activity

Crypto Risk Metrics GmbH is as a software-as-a-service company with a focus on regulatory compliance. Due to the regulations laid out in article 5 (4) of the REGULATION (EU) 2023/1114 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No

1095/2010 and Directives 2013/36/EU and (EU) 2019/1937, Crypto Risk Metrics GmbH aims at providing central services for crypto-asset white papers.

A.14 Parent company business activity

Not applicable.

A.15 Newly established

Crypto Risk Metrics GmbH has been etablished since 2018 and is therefore not newly established (i. e. older than three years).

A.16 Financial condition for the past three years

Crypto Risk Metrics GmbH's profit after tax for the last three financial years are as follows:

2024 (unaudited): negative 50.891,81 EUR

2023 (unaudited): negative 27.665,32 EUR

2022: 104.283,00 EUR.

As 2023 and 2024 were the years building Software for the MiCAR-Regulation which was not yet in place, revenue streams from these investments are expeted to be generated in 2025.

A.17 Financial condition since registration

This point would only be applicable if the company were newly established and the financial conditions for the past three years had not been provided in the bulletpoint before.

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

Yes

B.2 Name

The project was founded by an anonymous group of developers, and no identifiable natural or legal persons can be directly associated with its creation or ongoing management.

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.

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

Not applicable.

C.2 Legal form

Not applicable.

C.3 Registered address

Not applicable.

C.4 Head office

Not applicable.

C.5 Registration date

Not applicable.

C.6 Legal entity identifier

Not applicable.

C.7 Another identifier required pursuant to applicable national law

Not applicable.

C.8 Parent company

Not applicable.

C.9 Reason for crypto-Asset white paper Preparation

Not applicable.

C.10 Members of the Management body

Not applicable.

C.11 Operator business activity

Not applicable.

C.12 Parent company business activity

Not applicable.

C.13 Other persons drawing up the crypto-asset white paper according to Article 6(1), second subparagraph, of Regulation (EU) 2023/1114

Not applicable.

C.14 Reason for drawing the white paper by persons referred to in Article 6(1), second subparagraph, of Regulation (EU) 2023/1114

Not applicable.

Part D – Information about the crypto-asset project

D.1 Crypto-asset project name

Long Name: "PancakeSwap", Short Name: "CAKE;Cake" according to the Digital Token Identifier Foundation (www.dtif.org, DTI see F.13, FFG DTI see F.14 as of 2025-10-20).

D.2 Crypto-assets name

See F.13.

D.3 Abbreviation

See F.13.

D.4 Crypto-asset project description

According to public information (see https://pancakeswap.finance and the official documentation accessed 2025-10-24), PancakeSwap is a decentralized exchange protocol operating primarily on the BNB Smart Chain, with multichain deployments

including Ethereum, Aptos, Polygon zkEVM, Base, Linea, Arbitrum and zkSync Era. It enables the swapping of crypto-assets, liquidity provision, yield farming, and staking functionalities through non-custodial smart contracts. The protocol is operated as an open-source decentralized application.

The CAKE crypto-asset serves as the core medium of exchange within the PancakeSwap ecosystem. It is used for paying protocol fees, distributing rewards to liquidity providers and stakers, and participating in governance processes. CAKE follows a deflationary model combining controlled emissions with periodic buy-back-and-burn mechanisms funded by revenues from trading, perpetuals, and prediction products. The total supply of CAKE is capped at 450,000,000 units.

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

Name	Position	Address
Info	There are currently no publicly disclosed natural or legal persons officially associated with PancakeSwap. Available public sources confirm that the token was launched by an anonymous team in September 2020, without further identification of responsible entities. The absence of identifiable individuals or organizations limits transparency and makes	Not applicable

	accountability difficult to assess.	

D.6 Utility Token Classification

The token does not classify as a utility token.

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

Not applicable.

D.8 Plans for the token

PancakeSwap maintains an officially published roadmap on its documentation site (updated on 2024-08-15). The roadmap outlines several planned objectives for the token.

Past milestones:

- Deployment of PancakeSwap v3 (April 2023) (Swap & Liquidity upgrade on BNB Chain and Ethereum) and multiple multichain expansions. (Source: Introducing PancakeSwap V3 – A More Efficient and User-Friendly DEX on BNB Chain and Ethereum (https://blog.pancakeswap.finance/articles/introducing-pancake-swap-v3-a-more-efficient-and-user-friendly-dex-on-bnb-chain-and-ethereum)

- Tokenomics 3.0 (2023): 'Tokenomics 3.0' set a 450 million CAKE hard cap, targeted a deflationary supply trajectory, and later led to the retirement of veCAKE.

- Deployment of PancakeSwap v4 (April 2025): The upgrade consolidates liquidity pools under a single "Singleton" contract architecture and implements a "Flash Accounting" mechanism, allowing transactions to be net-settled at the contract level.

As of the date of this white paper (2025-10-24), no detailed future development plans have been made publicly available by the project.

It should be emphasized that all information on the project's roadmap and token plans is indicative and subject to change. The implementation of the described milestones depends on multiple factors, including technological feasibility, governance decisions,

and market conditions. Consequently, there is no assurance that the anticipated developments, integrations, or token releases will occur as planned, nor that they will have a positive effect on the token's functionality or value.

D.9 Resource allocation

According to publicly available information, PancakeSwap (CAKE) was launched anonymously by a group of developers in September 2020. The project did not conduct a pre-mine, pre-sale, or initial coin offering (ICO). Instead, CAKE tokens were introduced into circulation exclusively through liquidity farming and staking rewards distributed to participants of the protocol.

The information above is based on publicly available sources and could not be independently verified through official filings or project documentation.

D.10 Planned use of Collected funds or crypto-Assets

Not applicable, as this white paper was drawn up for the admission to trading and not for collecting funds for the crypto-asset-project.

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

The white paper concerns the admission to trading (i. e. ATTR) on any Crypto Asset Service Providers platform that has obtained the written consent of Crypto Risk Metrics GmbH as the person drafting this white paper.

E.2 Reasons for public offer or admission to trading

As already stated in A.13, Crypto Risk Metrics GmbH aims to provide central services to draw up crypto-asset white papers in accordance to COMMISSION IMPLEMENTING REGULATION (EU) 2024/2984.

E.3 Fundraising target

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.4 Minimum subscription goals

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.5 Maximum subscription goals

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.6 Oversubscription acceptance

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.7 Oversubscription allocation

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.8 Issue price

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.9 Official currency or any other crypto-assets determining the issue price

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.10 Subscription fee

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.11 Offer price determination method

Once the token is admitted to trading its price will be determined by demand (buyers) and supply (sellers).

E.12 Total number of offered/traded crypto-assets

The crypto-asset project itself refers to a total supply of 450,000,000 units (https://docs.pancakeswap.finance/protocol/cake-tokenomics, accessed 2025-10-23). Investors should note that changes in the token supply can have a negative impact.

The effective amount of tokens available on the market depends on the number of tokens released by the issuer or other parties at any given time, as well as potential reductions through token "burning." As a result, the circulating supply may differ from the total supply.

E.13 Targeted holders

ALL

E.14 Holder restrictions

The Holder restrictions are subject to the rules applicable to the Crypto Asset Service Provider as well as additional restrictions the Crypto Asset Service Providers might set in force.

E.15 Reimbursement notice

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.16 Refund mechanism

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.17 Refund timeline

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.18 Offer phases

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.19 Early purchase discount

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.20 Time-limited offer

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.21 Subscription period beginning

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.22 Subscription period end

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.23 Safeguarding arrangements for offered funds/crypto- Assets

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.24 Payment methods for crypto-asset purchase

The payment methods are subject to the respective capabilities of the Crypto Asset Service Provider listing the crypto-asset.

E.25 Value transfer methods for reimbursement

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.26 Right of withdrawal

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.27 Transfer of purchased crypto-assets

The transfer of purchased crypto-assets are subject to the respective capabilities of the Crypto Asset Service Provider listing the crypto-asset.

E.28 Transfer time schedule

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.29 Purchaser's technical requirements

The technical requirements that the purchaser is required to fulfil to hold the crypto-assets of purchased crypto-assets are subject to the respective capabilities of the Crypto Asset Service Provider listing the crypto-asset.

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

Not applicable.

E.31 CASP identifier

Not applicable.

E.32 Placement form

Not applicable.

E.33 Trading platforms name

The trading on all MiCAR-compliant trading platforms is sought.

E.34 Trading platforms Market identifier code (MIC)

Not applicable.

E.35 Trading platforms access

This depends on the trading platform listing the asset.

E.36 Involved costs

This depends on the trading platform listing the asset. Furthermore, costs may occur for making transfers out of the platform (i. e. "gas costs" for blockchain network use that may exceed the value of the crypto-asset itself).

E.37 Offer expenses

Not applicable, as this crypto-asset white paper concerns the admission to trading and not the offer of the token to the public.

E.38 Conflicts of interest

MiCAR-compliant Crypto Asset Service Providers shall have strong measurements in place in order to manage conflicts of interests. Due to the broad audience this white-paper is adressing, potential investors should always check the conflicts of Interest policy of their respective counterparty.

E.39 Applicable law

Not applicable, as it is referred to on "offer to the public" and in this white-paper, the admission to trading is sought.

E.40 Competent court

Not applicable, as it is referred to on "offer to the public" and in this white-paper, the admission to trading is sought.

Part F – Information about the crypto-assets

F.1 Crypto-asset type

The crypto-asset described in the white paper is classified as a crypto-asset under the Markets in Crypto-Assets Regulation (MiCAR) but does not qualify as an electronic money token (EMT) or an asset-referenced token (ART). It is a digital representation of value that can be stored and transferred using distributed ledger technology (DLT) or similar technology, without embodying or conferring any rights to its holder.

The asset does not aim to maintain a stable value by referencing an official currency, a basket of assets, or any other underlying rights. Instead, its valuation is entirely market-driven, based on supply and demand dynamics, and not supported by a stabilization mechanism. It is neither pegged to any fiat currency nor backed by any external assets, distinguishing it clearly from EMTs and ARTs.

Furthermore, the crypto-asset is not categorized as a financial instrument, deposit, insurance product, pension product, or any other regulated financial product under EU law. It does not grant financial rights, voting rights, or any contractual claims to its holders, ensuring that it remains outside the scope of regulatory frameworks applicable to traditional financial instruments.

F.2 Crypto-asset functionality

The CAKE token serves as the native token within the PancakeSwap protocol, a decentralized exchange and automated market maker (AMM) operating primarily on the Binance Smart Chain. The token is used for governance participation, staking, and liquidity provision within the protocol's ecosystem. Holders may stake CAKE to earn rewards, participate in liquidity pools to facilitate decentralized trading, and engage in governance processes related to protocol parameters and future developments. The token does not represent any ownership, profit-sharing, or claim rights vis-à-vis any legal entity and functions solely as a utility component of the decentralized protocol.

F.3 Planned application of functionalities

See D.8.

A description of the characteristics of the crypto asset, including the data necessary for classification of the crypto-asset white paper in the register referred to in Article 109 of Regulation (EU) 2023/1114, as specified in accordance with paragraph 8 of that Article

F.4 Type of crypto-asset white paper

The white paper type is "other crypto-assets" (i. e. "OTHR").

F.5 The type of submission

The white paper submission type is "NEWT", which stands for new token.

F.6 Crypto-asset characteristics

The tokens are crypto-assets other than EMTs and ARTs, which are available on the Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum, Aptos and BNB Smart Chain blockchain. The tokens are fungible with a total supply of 450,000,000 units. The tokens are a digital representation of value, and have no inherent rights attached as well as no intrinsic utility.

F.7 Commercial name or trading name

See F.13.

F.8 Website of the issuer

https://pancakeswap.finance/

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

2025-11-24

F.10 Publication date

2025-11-24

F.11 Any other services provided by the issuer

It is not possible to exclude a possibility that the issuer of the token provides or will provide other services not covered by Regulation (EU) 2023/1114 (i.e. MiCAR).

F.12 Language or languages of the crypto-asset white paper

EN

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

79F06FB14, QJXZG0R9J, KX6X7D5ND, 7WCK2RVW2, HT742VTHT, KHJHQNSDZ, 3DJ566NFC, HH35QMXT8

F.14 Functionally fungible group digital token identifier, where available

LZ3V3Z6FD

F.15 Voluntary data flag

Mandatory.

F.16 Personal data flag

The white paper does contain personal data.

F.17 LEI eligibility

The issuer should be eligible for a Legal Entity Identifier.

F.18 Home Member State

Germany

F.19 Host Member States

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

Part G – Information on the rights and obligations attached to the crypto-assets

G.1 Purchaser rights and obligations

The crypto-asset does not grant any legally enforceable or contractual rights or obligations to its holders or purchasers.

Any functionalities accessible through the underlying technology are of a purely technical or operational nature and do not constitute rights comparable to ownership, profit participation, governance, or similar entitlements known from traditional financial instruments.

Accordingly, holders do not acquire any claim capable of legal enforcement against the issuer or any third party.

G.2 Exercise of rights and obligations

As the crypto-asset does not establish any legally enforceable rights or obligations, there are no applicable procedures or conditions for their exercise.

Any interaction or functionality that may be available within the technical infrastructure of the project - such as participation mechanisms or protocol-level features - serves an operational purpose only and does not create or evidence a contractual or statutory entitlement.

G.3 Conditions for modifications of rights and obligations

Because the crypto-asset does not confer legally enforceable rights or obligations, there are no conditions or mechanisms under which such rights could be modified.

Adjustments to the technical protocol, smart contract logic, or related systems may occur in the ordinary course of development or maintenance.

Such changes do not alter any legal position of holders, as no contractual or regulatory rights exist. Holders should not interpret technical updates or governance-related changes as amendments to legally binding entitlements.

G.4 Future public offers

Information on the future offers to the public of crypto-assets were not available at the time of writing this white paper (2025-10-20).

G.5 Issuer retained crypto-assets

No verifiable information regarding the intended token distribution is available. Due to the anonymous nature of the project's founding group and the absence of a clearly identifiable governance or issuing entity, no reliable statement can be made concerning the allocation or issuer-retained tokens.

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

The admission to trading is sought.

G.10 Crypto-assets purchase or sale modalities

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

G.11 Crypto-assets transfer restrictions

The crypto-assets as such do not have any transfer restrictions and are generally freely transferable. The Crypto Asset Service Providers can impose their own restrictions in agreements they enter with their clients. The Crypto Asset Service Providers may impose restrictions to buyers and sellers in accordance with applicable laws and internal policies and terms.

G.12 Supply adjustment protocols

No, there are no fixed protocols that can increase or decrease the supply implemented as of 2025-10-17. Also, it is possible to decrease the circulating supply, by transferring crypto-assets to so called "burn-addresses", which are addresses that render the crypto-asset "non-transferable" after sent to those addresses.

G.13 Supply adjustment mechanisms

The crypto-asset project itself refers to a total supply of 450,000,000 units (https://docs.pancakeswap.finance/protocol/cake-tokenomics, accessed 2025-10-23). Investors should note that changes in the token supply can have a negative impact.

The effective amount of tokens available on the market depends on the number of tokens released by the issuer or other parties at any given time, as well as potential

reductions through token "burning." As a result, the circulating supply may differ from the total supply.

G.14 Token value protection schemes

No, the token does not have value protection schemes.

G.15 Token value protection schemes description

Not applicable.

G.16 Compensation schemes

No, the token does not have compensation schemes.

G.17 Compensation schemes description

Not applicable.

G.18 Applicable law

Applicable law likely depends on the location of any particular transaction with the token.

G.19 Competent court

Competent court likely depends on the location of any particular transaction with the token.

Part H – information on the underlying technology

H.1 Distributed ledger technology (DTL)

See F.13.

H.2 Protocols and technical standards

The crypto asset that is the subject of this white paper is available on multiple DLT networks. These include: Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum, Aptos and BNB Smart Chain. In general, when evaluating crypto assets, the total number

of tokens issued across different networks must always be taken into account, as spillover effects can be adverse for investors.

The following applies to Base:

Base was introduced by Coinbase and developed using Optimism's OP Stack. L2 transactions do not have their own consensus mechanism and are only validated by the execution clients. The so-called sequencer regularly bundles stacks of L2 transactions and publishes them on the L1 network, i.e. Ethereum. Ethereum's consensus mechanism (Proof-of-stake) thus indirectly secures all L2 transactions as soon as they are written to L1.

The following applies to Linea:

The Layer 2 uses rollup technology, whereby multiple transactions are aggregated ("rolled up") and submitted in batches to Ethereum for final settlement.

A single sequencer is responsible for ordering transactions on the Layer 2 network. The sequencer collects user-submitted transactions, orders them, and produces Layer 2 blocks.

The correctness of Layer 2 state transitions is ensured through a single prover mechanism. The prover generates cryptographic proofs (validity proofs or fraud proofs, depending on the rollup type) demonstrating that the state transitions executed off-chain are consistent with the Ethereum smart contracts governing the rollup. These proofs are submitted to Ethereum for verification, ensuring that malicious or incorrect state transitions cannot be finalized on the base layer.

The Layer 2 is fully interoperable with Ethereum. Users deposit and withdraw assets via Ethereum smart contracts, and Layer 2 transactions ultimately derive their security from Ethereum's consensus mechanism.

Future upgrades may extend interoperability to other Layer 2 solutions or blockchains.

The following applies to Polygon zkEVM:

Polygon zkEVM is an Ethereum-compatible Layer 2 solution built on zero-knowledge rollup technology. It follows EVM equivalence and supports standard Ethereum protocols such as ERC-20 and ERC-721.

The following applies to zkSync Era:

zkSync Era operates as an Ethereum Layer 2 network implementing zk-Rollups with full EVM compatibility. It adheres to Ethereum token and contract standards, ensuring seamless interoperability.

The following applies to Arbitrum:

Arbitrum commonly refers to the Arbitrum Rollup, a Layer 2 (L2) blockchain build using the Arbitrum technology suite. The Arbitrum Rollup is an optimistic rollup on top of the Ethereum blockchain. This means that the L2 transactions do not have their own consensus mechanism and are only validated by the execution clients. The so-called sequencer regularly bundles stacks of L2 transactions and publishes them on the L1 network, i.e. Ethereum. Ethereum's consensus mechanism (Proof-of-Stake) thus indirectly secures all L2 transactions as soon as they are written to L1.

The following applies to Ethereum:

The crypto-asset operates on a well-defined set of protocols and technical standards that are intended to ensure its security, decentralization, and functionality. It is running on the Ethereum blockchain. Below are some of the key ones:

1. Network Protocols

The crypto-asset follows a decentralized, peer-to-peer (P2P) protocol where nodes communicate over the crypto-asset's DevP2P protocol using RLPx for data encoding.

- Transactions and smart contract execution are secured through Proof-of-Stake (PoS) consensus.

- Validators propose and attest blocks in Ethereum's Beacon Chain, finalized through Casper FFG.

- The Ethereum Virtual Machine (EVM) executes smart contracts using Turing-complete bytecode.

2. Transaction and Address Standards

crypto-asset Address Format: 20-byte addresses derived from Keccak-256 hashing of public keys.

Transaction Types:

- Legacy Transactions (pre-EIP-1559)

- Type 0 (Pre-EIP-1559 transactions)

- Type 1 (EIP-2930: Access list transactions)

- Type 2 (EIP-1559: Dynamic fee transactions with base fee burning)

The Pectra upgrade introduces EIP-7702, a transformative improvement to account abstraction. This allows externally owned accounts (EOAs) to temporarily act as smart contract wallets during a transaction. It provides significant flexibility, enabling functionality such as sponsored gas payments and batched operations without changing the underlying account model permanently.

3. Blockchain Data Structure & Block Standards

- the crypto-asset's blockchain consists of accounts, smart contracts, and storage states, maintained through Merkle Patricia Trees for efficient verification.

Each block contains:

- Block Header: Parent hash, state root, transactions root, receipts root, timestamp, gas limit, gas used, proposer signature.

- Transactions: Smart contract executions and token transfers.

- Block Size: No fixed limit; constrained by the gas limit per block (variable over time). In line with Ethereum's scalability roadmap, Pectra includes EIP-7691, which increases the maximum number of "blobs" (data chunks introduced with EIP-4844) per block. This change significantly boosts the data availability layer used by rollups, supporting cheaper and more efficient Layer 2 scalability.

4. Upgrade & Improvement Standards

Ethereum follows the Ethereum Improvement Proposal (EIP) process for upgrades.

The following applies to Aptos:

Aptos is developed using the Move programming language and framework. It employs a novel parallel execution engine (Block-STM) and supports interoperability through standardized APIs.

The following applies to BNB Smart Chain:

Binance Smart Chain (BSC) is a Layer-1 blockchain that utilizes a Proof-of-Staked Authority (PoSA) consensus mechanism. This mechanism combines elements of Proof-of-Authority (PoA) and Proof-of-Stake (PoS) and is intended to secure the network and validate transactions. In PoSA, validators are selected based on their stake and authority, with the goal of providing fast transaction times and low fees while maintaining network security through staking.

H.3 Technology used

The crypto asset that is the subject of this white paper is available on multiple DLT networks. These include: Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum, Aptos and BNB Smart Chain. In general, when evaluating crypto assets, the total number

of tokens issued across different networks must always be taken into account, as spillover effects can be adverse for investors.

The following applies to Base:

1. Base-Compatible Wallets:The tokens are supported by all wallets compatible with the Ethereum Virtual Machine (EVM), such as MetaMask, Coinbase Wallet, and Trust Wallet. These wallets interact with Base in the same way as with other EVM-compatible chains, using standard Web3 interfaces.

2. Decentralized Ledger:Base operates as a Layer-2 blockchain on Ethereum and maintains its own decentralized ledger for recording token transactions. Final transaction data is periodically posted to Ethereum Layer 1, ensuring long-term availability and resistance to tampering.

3. ERC-20 Token Standard:The Base network supports tokens implemented under the ERC-20 standard, the same as on Ethereum.

4. Scalability and Transaction Efficiency:

As a rollup-based Layer-2, Base is intended to handle high volumes of transactions with lower fees compared to Ethereum Layer 1. This is enabled by off-chain execution and on-chain data posting via optimistic rollup architecture

The following applies to Linea:

The LINEA protocol is a Type 2 Zero-Knowledge Ethereum Virtual Machine (zkEVM) network that aims to scale Ethereum while preserving its security and developer experience. The Network is designed for full EVM equivalence at the bytecode level, which is a critical standard for seamless interoperability. As a zk-rollup, the Network utilizes zero-knowledge proofs (ZKPs) to ensure the integrity of off-chain transactions. The Network uses a custom, in-house proving system based on recursive SNARKs, with components named Arcane and Vortex. This system is used to generate validity proofs

that confirm off-chain computations are correct. The network uses lattice-based cryptography for its ZKPs, which offers resistance to potential threats from quantum computing.

The Network's off-chain execution environment uses data structures that mirror Ethereum's own state management. The Network uses a Merkle-Patricia Trie to record the world state and manage consensus, just as Ethereum does. To improve efficiency in tracking and updating account storage, LINEA protocol uses a sparse Merkle tree.

The following applies to Polygon zkEVM:

Polygon zkEVM uses zero-knowledge proof cryptography to aggregate and verify transactions off-chain before submitting validity proofs to Ethereum. This enhances scalability and reduces gas costs.

The following applies to zkSync Era:

zkSync Era combines zk-SNARK proofs with EVM-equivalent smart-contract execution. Its architecture allows high throughput while inheriting Ethereum's security model.

The following applies to Arbitrum:

1. Arbitrum-Compatible Wallets:The tokens are supported by all wallets compatible with the Ethereum Virtual Machine (EVM), such as MetaMask.

2. Decentralized Ledger: Arbitrum operates as a Layer-2 blockchain on Ethereum and maintains its own decentralized ledger for recording token transactions. Final transaction data is periodically posted to Ethereum Layer 1, ensuring long-term availability and resistance to tampering.

3. ERC-20 Token Standard: The Arbitrum network supports tokens implemented under the ERC-20 standard, the same as on Ethereum.

4. Arbitrum supports what is called. MultiVM, which is the combination of EVM support and WASM VM support. The latter one being more efficient (lower gas costs) but specific to Arbitrum.

5. Scalability and Transaction Efficiency:

As a rollup-based Layer-2, Arbitrum is intended to handle high volumes of transactions with lower fees compared to Ethereum Layer 1. This is enabled by off-chain execution and on-chain data posting via optimistic rollup architecture.

The following applies to Ethereum:

1. Decentralized Ledger: The Ethereum blockchain acts as a decentralized ledger for all token transactions, with the intention to preserving an unalterable record of token transfers and ownership to ensure both transparency and security.

2. Private Key Management: To safeguard their token holdings, users must securely store their wallet's private keys and recovery phrases.

3. Cryptographic Integrity: Ethereum employs elliptic curve cryptography to validate and execute transactions securely, intended to ensure the integrity of all transfers. The Keccak-256 (SHA-3 variant) Hashing Algorithm is used for hashing and address generation. The crypto-asset uses ECDSA with secp256k1 curve for key generation and digital signatures. Next to that, BLS (Boneh-Lynn-Shacham) signatures are used for validator aggregation in PoS.

The following applies to Aptos:

Aptos uses a modular blockchain design optimized for parallel transaction processing. The Move VM and on-chain governance framework ensure security and upgradability.

The following applies to BNB Smart Chain:

1. BSC-Compatible Wallets

Tokens on BSC are supported by wallets compatible with the Ethereum Virtual Machine (EVM), such as MetaMask. These wallets can be configured to connect to the BSC network and are designed to interact with BSC using standard Web3 interfaces.

2. Ledger

BSC maintains its own decentralized ledger for recording token transactions. This ledger is intended to ensure transparency and security, providing a verifiable record of all activities on the network.

3. BEP-20 Token Standard

BSC supports tokens implemented under the BEP-20 standard, which is tailored for the BSC ecosystem. This standard is designed to facilitate the creation and management of tokens on the network.

4. Scalability and Transaction Efficiency

BSC is designed to handle high volumes of transactions with low fees. It leverages its PoSA consensus mechanism to achieve fast transaction times and efficient network performance, making it suitable for applications requiring high throughput.

H.4 Consensus mechanism

The crypto asset that is the subject of this white paper is available on multiple DLT networks. These include: Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum, Aptos and BNB Smart Chain. In general, when evaluating crypto assets, the total number of tokens issued across different networks must always be taken into account, as spillover effects can be adverse for investors.

The following applies to Base:

Base is a Layer-2 (L2) solution on Ethereum that was introduced by Coinbase and developed using Optimism's OP Stack. L2 transactions do not have their own consensus mechanism and are only validated by the execution clients. The so-called sequencer

regularly bundles stacks of L2 transactions and publishes them on the L1 network, i.e. Ethereum. Ethereum's consensus mechanism (Proof-of-stake) thus indirectly secures all L2 transactions as soon as they are written to L1.

The following applies to Linea:

The Linea Network uses a Zero-Knowledge Rollup (ZK-Rollup) architecture with a zkEVM for Ethereum compatibility, and its consensus is derived from Ethereum's own proof-of-stake security. While the Network has components like a sequencer for ordering transactions and a coordinator for network management, its consensus mechanism is fundamentally linked to the proof and verification process of zero-knowledge proofs and the security of the Ethereum mainnet. Instead of a typical decentralized consensus on a separate blockchain, the Network inherits its security and state finality from Ethereum.

The following applies to Polygon zkEVM:

Polygon zkEVM inherits Ethereum’s Proof-of-Stake (PoS) consensus for finality, while internally relying on zk-proof verification to confirm transaction validity.

The following applies to zkSync Era:

zkSync Era depends on Ethereum’s consensus layer for settlement and employs zk-proof validation for transaction integrity and state verification.

The following applies to Arbitrum:

Arbitrum is a Layer-2 (L2) solution on Ethereum that is developed using the Arbitrum technology suite. L2 transactions do not have their own consensus mechanism and are only validated by the execution clients. The so-called sequencer regularly bundles stacks of L2 transactions and publishes them on the L1 network, i.e. Ethereum. Ethereum's

consensus mechanism (Proof-of-Stake) thus indirectly secures all L2 transactions as soon as they are written to L1.

The following applies to Ethereum:

The crypto-asset's Proof-of-Stake (PoS) consensus mechanism, introduced with The Merge in 2022, replaces mining with validator staking. Validators must stake at least 32 ETH every block a validator is randomly chosen to propose the next block. Once proposed the other validators verify the blocks integrity. The network operates on a slot and epoch system, where a new block is proposed every 12 seconds, and finalization occurs after two epochs (~12.8 minutes) using Casper-FFG. The Beacon Chain coordinates validators, while the fork-choice rule (LMD-GHOST) ensures the chain follows the heaviest accumulated validator votes. Validators earn rewards for proposing and verifying blocks, but face slashing for malicious behavior or inactivity. PoS aims to improve energy efficiency, security, and scalability, with future upgrades like Proto-Danksharding enhancing transaction efficiency.

The following applies to Aptos:

Aptos utilizes a Proof-of-Stake consensus based on the AptosBFT protocol, a variant of HotStuff, ensuring fast and deterministic finality.

The following applies to BNB Smart Chain:

Binance Smart Chain (BSC) uses a hybrid consensus mechanism called Proof of Staked Authority (PoSA), which combines elements of Delegated Proof of Stake (DPoS) and Proof of Authority (PoA). This method ensures fast block times and low fees while maintaining a level of decentralization and security. Core Components 1. Validators (so-called “Cabinet Members”): Validators on BSC are responsible for producing new blocks, validating transactions, and maintaining the network’s security. To become a validator, an entity must stake a significant amount of BNB (Binance Coin). Validators are selected

through staking and voting by token holders. There are 21 active validators at any given time, rotating to ensure decentralization and security. 2. Delegators: Token holders who do not wish to run validator nodes can delegate their BNB tokens to validators. This delegation helps validators increase their stake and improves their chances of being selected to produce blocks. Delegators earn a share of the rewards that validators receive, incentivizing broad participation in network security. 3. Candidates: Candidates are nodes that have staked the required amount of BNB and are in the pool waiting to become validators. They are essentially potential validators who are not currently active but can be elected to the validator set through community voting. Candidates play a crucial role in ensuring there is always a sufficient pool of nodes ready to take on validation tasks, thus maintaining network resilience and decentralization. Consensus Process 4. Validator Selection: Validators are chosen based on the amount of BNB staked and votes received from delegators. The more BNB staked and votes received, the higher the chance of being selected to validate transactions and produce new blocks. The selection process involves both the current validators and the pool of candidates, ensuring a dynamic and secure rotation of nodes. 5. Block Production: The selected validators take turns producing blocks in a PoA-like manner, ensuring that blocks are generated quickly and efficiently. Validators validate transactions, add them to new blocks, and broadcast these blocks to the network. 6. Transaction Finality: BSC achieves fast block times of around 3 seconds and quick transaction finality. This is achieved through the efficient PoSA mechanism that allows validators to rapidly reach consensus. Security and Economic Incentives 7. Staking: Validators are required to stake a substantial amount of BNB, which acts as collateral to ensure their honest behavior. This staked amount can be slashed if validators act maliciously. Staking incentivizes validators to act in the network's best interest to avoid losing their staked BNB. 8. Delegation and Rewards: Delegators earn rewards proportional to their stake in validators. This incentivizes them to choose reliable validators and participate in the network’s security. Validators and delegators share transaction fees as rewards, which provides continuous economic incentives to maintain network security and performance. 9. Transaction Fees: BSC employs low transaction fees, paid in BNB,

making it cost-effective for users. These fees are collected by validators as part of their rewards, further incentivizing them to validate transactions accurately and efficiently.

H.5 Incentive mechanisms and applicable fees

The crypto asset that is the subject of this white paper is available on multiple DLT networks. These include: Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum, Aptos and BNB Smart Chain. In general, when evaluating crypto assets, the total number of tokens issued across different networks must always be taken into account, as spillover effects can be adverse for investors.

The following applies to Base:

Base is a Layer-2 (L2) solution on Ethereum that uses optimistic rollups provided by the OP Stack on which it was developed. Transaction on base are bundled by a, so called, sequencer and the result is regularly submitted as an Layer-1 (L1) transactions. This way many L2 transactions get combined into a single L1 transaction. This lowers the average transaction cost per transaction, because many L2 transactions together fund the transaction cost for the single L1 transaction. This creates incentives to use base rather than the L1, i.e. Ethereum, itself. To get crypto-assets in and out of base, a special smart contract on Ethereum is used. Since there is no consensus mechanism on L2 an additional mechanism ensures that only existing funds can be withdrawn from L2. When a user wants to withdraw funds, that user needs to submit a withdrawal request on L1. If this request remains unchallenged for a period of time the funds can be withdrawn. During this time period any other user can submit a fault proof, which will start a dispute resolution process. This process is designed with economic incentives for correct behavior.

The following applies to Linea:

Like Ethereum, the Network uses a gas system, where gas is the unit of computational effort required to process a transaction. All gas fees on the Network are paid in Ether

(ETH). The Network has a base fee that is designed to stabilize at 7 wei. The base fee still decreases or increases based on network traffic, similar to Ethereum, but it does not go below 7 wei.

The Network does not require token staking for transaction validation purposes and thus provides no staking rewards. It does not offer incentives for running a full network node. It does charge fees collected by the sequencer for transaction processing. Those fees are paid in ETH, 20% of which are immediately burned while the remaining 80% are converted to Tokens and then burned.

The following applies to Polygon zkEVM:

Validators and provers in Polygon zkEVM are rewarded in MATIC for submitting validity proofs and maintaining network performance. Transaction fees are paid in ETH or MATIC.

The following applies to zkSync Era:

zkSync Era compensates sequencers and provers through ETH-based fees. Part of the transaction costs cover proof generation, while the remainder secures Layer 2 operations.

The following applies to Arbitrum:

Arbitrum is a Layer-2 (L2) solution on Ethereum that is developed using the Arbitrum technology suite. Transaction on Arbitrum are bundled by a, so called, sequencer and the result is regularly submitted as an Layer-1 (L1) transactions. This way many L2 transactions get combined into a single L1 transaction. This lowers the average transaction cost per transaction, because many L2 transactions together fund the transaction cost for the single L1 transaction. This creates incentives to use Arbitrum rather than the L1, i.e. Ethereum, itself. To get crypto-assets in and out of Arbitrum, a

special smart contract on Ethereum is used. Since there is no consensus mechanism on L2 an additional mechanism ensures that only existing funds can be withdrawn from L2. When a user wants to withdraw funds, that user needs to submit a withdrawal request on L1. If this request remains undisputed for a period of time the funds can be withdrawn. During this time period Arbitrum validators can dispute the claim, which will start a dispute resolution process. This process is designed with economic incentives for correct behavior of all participants.

The following applies to Ethereum:

The crypto-asset's Proof-of-Stake (PoS) consensus mechanism, introduced with The Merge in 2022, replaces mining with validator staking. Validators must stake at least 32 ETH every block a validator is randomly chosen to propose the next block. Once proposed the other validators verify the blocks integrity. The network operates on a slot and epoch system, where a new block is proposed every 12 seconds, and finalization occurs after two epochs (~12.8 minutes) using Casper-FFG. The Beacon Chain coordinates validators, while the fork-choice rule (LMD-GHOST) ensures the chain follows the heaviest accumulated validator votes. Validators earn rewards for proposing and verifying blocks, but face slashing for malicious behavior or inactivity. PoS aims to improve energy efficiency, security, and scalability, with future upgrades like Proto-Danksharding enhancing transaction efficiency.

The following applies to Aptos:

Aptos incentivizes validators with APT token rewards for staking and transaction validation. Fees are dynamically adjusted to reflect network demand.

The following applies to BNB Smart Chain:

Binance Smart Chain (BSC) uses the Proof of Staked Authority (PoSA) consensus mechanism to ensure network security and incentivize participation from validators and

delegators. Incentive Mechanisms 1. Validators: Staking Rewards: Validators must stake a significant amount of BNB to participate in the consensus process. They earn rewards in the form of transaction fees and block rewards. Selection Process: Validators are selected based on the amount of BNB staked and the votes received from delegators. The more BNB staked and votes received, the higher the chances of being selected to validate transactions and produce new blocks. 2. Delegators: Delegated Staking: Token holders can delegate their BNB to validators. This delegation increases the validator's total stake and improves their chances of being selected to produce blocks. Shared Rewards: Delegators earn a portion of the rewards that validators receive. This incentivizes token holders to participate in the network's security and decentralization by choosing reliable validators. 3. Candidates: Pool of Potential Validators: Candidates are nodes that have staked the required amount of BNB and are waiting to become active validators. They ensure that there is always a sufficient pool of nodes ready to take on validation tasks, maintaining network resilience. 4. Economic Security: Slashing: Validators can be penalized for malicious behavior or failure to perform their duties. Penalties include slashing a portion of their staked tokens, ensuring that validators act in the best interest of the network. Opportunity Cost: Staking requires validators and delegators to lock up their BNB tokens, providing an economic incentive to act honestly to avoid losing their staked assets. Fees on the Binance Smart Chain 5. Transaction Fees: Low Fees: BSC is known for its low transaction fees compared to other blockchain networks. These fees are paid in BNB and are essential for maintaining network operations and compensating validators. Dynamic Fee Structure: Transaction fees can vary based on network congestion and the complexity of the transactions. However, BSC ensures that fees remain significantly lower than those on the Ethereum mainnet. 6. Block Rewards: Incentivizing Validators: Validators earn block rewards in addition to transaction fees. These rewards are distributed to validators for their role in maintaining the network and processing transactions. 7. Cross-Chain Fees: Interoperability Costs: BSC supports cross-chain compatibility, allowing assets to be transferred between Binance Chain and Binance Smart Chain. These cross-chain operations incur minimal fees, facilitating seamless asset transfers and improving user experience. 8. Smart Contract Fees: Deployment and Execution Costs: Deploying and interacting with smart

contracts on BSC involves paying fees based on the computational resources required. These fees are also paid in BNB and are designed to be cost-effective, encouraging developers to build on the BSC platform.

H.6 Use of distributed ledger technology

No, DLT not operated by the issuer, offeror, a person seeking admission to trading or a third-party acting on the issuer's their behalf.

H.7 DLT functionality description

Not applicable.

H.8 Audit

Since the question of "technology" is understood in a broad sense, the answer to the question of whether an examination of the "technology used" has been carried out is "no, we cannot guarantee that all parts of the technology used have been examined." This is because this report focuses on risks and we cannot guarantee that every part of the technology used has been examined.

H.9 Audit outcome

Not applicable.

Part I – Information on risks

I.1 Offer-related risks

1. Regulatory and Compliance

This white paper has been prepared with utmost caution; however, uncertainties in the regulatory requirements and future changes in regulatory frameworks could potentially impact the token's legal status and its tradability. There is also a high probability that other laws will come into force, changing the rules for the trading of the token. Therefore, such developments shall be monitored and acted upon accordingly.

2. Operational and Technical

Blockchain Dependency: The token is entirely dependent on the blockchain the crypto-asset is issued upon. Any issues, such as downtime, congestion, or security vulnerabilities within the blockchain, could adversely affect the token's functionality.

Smart Contract Risks: Smart contracts governing the token may contain hidden vulnerabilities or bugs that could disrupt the token offering or distribution processes.

Connection Dependency: As the trading of the token also involves other trading venues, technical risks such as downtime of the connection or faulty code are also possible.

Human errors: Due to the irrevocability of blockchain-transactions, approving wrong transactions or using incorrect networks/addresses will most likely result in funds not being accessibly anymore.

Custodial risk: When admitting the token to trading, the risk of losing clients assets due to hacks or other malicious acts is given. This is due to the fact the token is hold in custodial wallets for the customers.

3. Market and Liquidity

Volatility: The token will most likely be subject to high volatility and market speculation. Price fluctuations could be significant, posing a risk of substantial losses to holders.

Liquidity Risk: Liquidity is contingent upon trading activity levels on decentralized exchanges (DEXs) and potentially on centralized exchanges (CEXs), should they be involved. Low trading volumes may restrict the buying and selling capabilities of the tokens.

4. Counterparty

As the admission to trading involves the connection to other trading venues, counterparty risks arise. These include, but are not limited to, the following risks:

General Trading Platform Risk: The risk of trading platforms not operating to the highest standards is given. Examples like FTX show that especially in nascent industries, compliance and oversight-frameworks might not be fully established and/or enforced.

Listing or Delisting Risks: The listing or delisting of the token is subject to the trading partners internal processes. Delisting of the token at the connected trading partners could harm or completely halt the ability to trade the token.

5. Liquidity

Liquidity of the token can vary, especially when trading activity is limited. This could result in high slippage when trading a token.

6. Failure of one or more Counterparties

Another risk stems from the internal operational processes of the counterparties used. As there is no specific oversight other than the typical due diligence check, it cannot be guaranteed that all counterparties adhere to the best market standards.

Bankruptcy Risk: Counterparties could go bankrupt, possibly resulting in a total loss for the clients assets hold at that counterparty.

7. Information asymmetry

Different groups of participants may not have the same access to technical details or governance information, leading to uneven decision-making and potential disadvantages for less informed investors.

I.2 Issuer-related risks

1. Insolvency

As with every other commercial endeavor, the risk of insolvency of entities involved in the project is given. This could be caused by but is not limited to lack of interest from the public, lack of funding, incapacitation of key developers and project members, force majeure (including pandemics and wars) or lack of commercial success or prospects.

2. Counterparty

In order to operate, entities involved in the project have most likely engaged in different business relationships with one or more third parties on which they and the network strongly depend on. Loss or changes in the leadership or key partners of entities involved in the project and/or the respective counterparties can lead to disruptions, loss

of trust, or project failure. This could result in a total loss of economic value for the crypto-asset holders.

3. Legal and Regulatory Compliance

Cryptocurrencies and blockchain-based technologies are subject to evolving regulatory landscapes worldwide. Regulations vary across jurisdictions and may be subject to significant changes. Non-compliance can result in investigations, enforcement actions, penalties, fines, sanctions, or the prohibition of the trading of the crypto-asset impacting its viability and market acceptance. This could also result in entities involved in the project to be subject to private litigation. The aforeementioned would most likely also lead to changes with respect to trading of the crypto-asset that may negatively impact the value, legality, or functionality of the crypto-asset.

4. Operational

Failure to develop or maintain effective internal control, or any difficulties encountered in the implementation of such controls, or their improvement could harm the business, causing disruptions, financial losses, or reputational damage of entities involved in the project.

5. Industry

The network and all entities involved in the project are and will be subject to all of the risks and uncertainties associated with a crypto-project, where the token issued has zero intrinsic value. History has shown that most of this projects resulted in financial losses for the investors and were only set-up to enrich a few insiders with the money from retail investors.

6. Reputational

The network and all entities involved in the project face the risk of negative publicity, whether due to, without limitation, operational failures, security breaches, or association with illicit activities, which can damage the reputation of the network and all entities involved in the project and, by extension, the value and acceptance of the crypto-asset.

7. Competition

There are numerous other crypto-asset projects in the same realm, which could have an effect on the crypto-asset in question.

8. Unanticipated Risk

In addition to the risks included in this section, there might be other risks that cannot be foreseen. Additional risks may also materialize as unanticipated variations or combinations of the risks discussed.

I.3 Crypto-assets-related risks

1. Valuation

As the crypto-asset does not have any intrinsic value, and grants neither rights nor obligations, the only mechanism to determine the price is supply and demand. Historically, most crypto-assets have dramatically lost value and were not a beneficial investment for the investors. Therefore, investing in these crypto-assets poses a high risk, and the loss of funds can occur.

2. Market Volatility

Crypto-asset prices are highly susceptible to dramatic fluctuations influence by various factors, including market sentiment, regulatory changes, technological advancements, and macroeconomic conditions. These fluctuations can result in significant financial losses within short periods, making the market highly unpredictable and challenging for investors. This is especially true for crypto-assets without any intrinsic value, and investors should be prepared to lose the complete amount of money invested in the respective crypto-assets.

3. Liquidity Challenges

Some crypto-assets suffer from limited liquidity, which can present difficulties when executing large trades without significantly impacting market prices. This lack of liquidity can lead to substantial financial losses, particularly during periods of rapid market movements, when selling assets may become challenging or require accepting unfavorable prices.

4. Asset Security

Crypto-assets face unique security threats, including the risk of theft from exchanges or digital wallets, loss of private keys, and potential failures of custodial services. Since crypto transactions are generally irreversible, a security breach or mismanagement can result in the permanent loss of assets, emphasizing the importance of strong security measures and practices.

5. Scams

The irrevocability of transactions executed using blockchain infrastructure, as well as the pseudonymous nature of blockchain ecosystems, attracts scammers. Therefore, investors in crypto-assets must proceed with a high degree of caution when investing in if they invest in crypto-assets. Typical scams include – but are not limited to – the creation of fake crypto-assets with the same name, phishing on social networks or by email, fake giveaways/airdrops, identity theft, among others.

6. Blockchain Dependency

Any issues with the blockchain used, such as network downtime, congestion, or security vulnerabilities, could disrupt the transfer, trading, or functionality of the crypto-asset.

7. Smart Contract Vulnerabilities

The smart contract used to issue the crypto-asset could include bugs, coding errors, or vulnerabilities which could be exploited by malicious actors, potentially leading to asset loss, unauthorized data access, or unintended operational consequences.

8. Privacy Concerns

All transactions on the blockchain are permanently recorded and publicly accessible, which can potentially expose user activities. Although addresses are pseudonoymous, the transparent and immutable nature of blockchain allows for advanced forensic analysis and intelligence gathering. This level of transparency can make it possible to link blockchain addresses to real-world identities over time, compromising user privacy.

9. Regulatory Uncertainty

The regulatory environment surrounding crypto-assets is constantly evolving, which can directly impact their usage, valuation, and legal status. Changes in regulatory frameworks may introduce new requirements related to consumer protection, taxation, and anti-money laundering compliance, creating uncertainty and potential challenges for investors and businesses operating in the crypto space. Although the crypto-asset do not create or confer any contractual or other obligations on any party, certain regulators may nevertheless qualify the crypto-asset as a security or other financial instrument under their applicable law, which in turn would have drastic consequences for the crypto-asset, including the potential loss of the invested capital in the asset. Furthermore, this could lead to the sellers and its affiliates, directors, and officers being obliged to pay fines, including federal civil and criminal penalties, or make the crypto-asset illegal or impossible to use, buy, or sell in certain jurisdictions. On top of that, regulators could take action against the network and all entities involved in the project as well as the trading platforms if the the regulators view the token as an unregistered offering of securities or the operations otherwise as a violation of existing law. Any of these outcomes would negatively affect the value and/or functionality of the crypot-asset and/or could cause a complete loss of funds of the invested money in the crypto-asset for the investor.

10. Counterparty risk

Engaging in agreements or storing crypto-assets on exchanges introduces counterparty risks, including the failure of the other party to fulfill their obligations. Investors may face potential losses due to factors such as insolvency, regulatory non-compliance, or fraudulent activities by counterparties, highlighting the need for careful due diligence when engaging with third parties.

11. Reputational concerns

Crypto-assets are often subject to reputational risks stemming from associations with illegal activities, high-profile security breaches, and technological failures. Such incidents can undermine trust in the broader ecosystem, negatively affecting investor confidence and market value, thereby hindering widespread adoption and acceptance.

12. Technological Innovation

New technologies or platforms could render the network's design less competitive or even break fundamental parts (i.e., quantum computing might break cryptographic algorithms used to secure the network), impacting adoption and value. Participants should approach the crypto-asset with a clear understanding of its speculative and volatile nature and be prepared to accept these risks and bear potential losses, which could include the complete loss of the asset's value.

13. Community and Narrative

As the crypto-asset has no intrinsic value, all trading activity is based on the intended market value is heavily dependent on its community.

14. Interest Rate Change

Historically, changes in interest, foreign exchange rates, and increases in volatility have increased credit and market risks and may also affect the value of the crypto-asset. Although historic data does not predict the future, potential investors should be aware that general movements in local and other factors may affect the market, and this could also affect market sentiment and, therefore most likely also the price of the crypto-asset.

15. Taxation

The taxation regime that applies to the trading of the crypto-asset by individual holders or legal entities will depend on the holder’s jurisdiction. It is the holder’s sole responsibility to comply with all applicable tax laws, including, but not limited to, the reporting and payment of income tax, wealth tax, or similar taxes arising in connection with the appreciation and depreciation of the crypto-asset.

16. Anti-Money Laundering/Counter-Terrorism Financing

It cannot be ruled out that crypto-asset wallet addresses interacting with the crypto-asset have been, or will be used for money laundering or terrorist financing purposes, or are identified with a person known to have committed such offenses.

17. Market Abuse

It is noteworthy that crypto-assets are potentially prone to increased market abuse risks, as the underlying infrastructure could be used to exploit arbitrage opportunities through schemes such as front-running, spoofing, pump-and-dump, and fraud across different systems, platforms, or geographic locations. This is especially true for crypto-assets with a low market capitalization and few trading venues, and potential investors should be aware that this could lead to a total loss of the funds invested in the crypto-asset.

18. Timeline and Milestones

Critical project milestones could be delayed by technical, operational, or market challenges.

19. Legal ownership: Depending on jurisdiction, token holders may not have enforceable legal rights over their holdings, limiting avenues for recourse in disputes or cases of fraud.

20. Jurisdictional blocking: Access to exchanges, wallets, or interfaces may be restricted based on user location or regulatory measures, even if the token remains transferable on-chain.

21. Token concentration: A large proportion of tokens held by a few actors could allow price manipulation, governance dominance, or sudden sell-offs impacting market stability.

22. Ecosystem incentive misalignment: If validator, developer, or user rewards become unattractive or distorted, network security and participation could decline.

23. Governance deadlock: Poorly structured or fragmented governance processes may prevent timely decisions, creating delays or strategic paralysis.

24. Compliance misalignment: Features or delivery mechanisms may unintentionally conflict with evolving regulations, particularly regarding consumer protection or data privacy.

I.4 Project implementation-related risks

As this white paper relates to the "Admission to trading" of the crypto-asset, the implementation risk is referring to the risks on the Crypto Asset Service Providers side. These can be, but are not limited to, typical project management risks, such as key-personal-risks, timeline-risks, and technical implementation-risks.

I.5 Technology-related risks

As this white paper relates to the "Admission to trading" of the crypto-asset, the technology-related risks mainly involve the DLT networks where the crypto asset is issued in.

1. Blockchain Dependency Risks

Network Downtime: Potential outages or congestion on the involved blockchains could interrupt on-chain token transfers, trading, and other functions.

2. Smart Contract Risks

Vulnerabilities: The smart contract governing the token could contain bugs or vulnerabilities that may be exploited, affecting token distribution or vesting schedules.

3. Wallet and Storage Risks

Private Key Management: Token holders must securely manage their private keys and recovery phrases to prevent permanent loss of access to their tokens, which includes Trading-Venues, who are a prominent target for dedicated hacks.

Compatibility Issues: The tokens require compatible wallets for storage and transfer. Any incompatibility or technical issues with these wallets could impact token accessibility.

4. Network Security Risks

Attack Risks: The blockchains may face threats such as denial-of-service (DoS) attacks or exploits targeting its consensus mechanism, which could compromise network integrity.

Centralization Concerns: Although claiming to be decentralized, the relatively smaller number of validators/concentration of stakes within the networks compared to other blockchains might pose centralization risks, potentially affecting network resilience.

5. Evolving Technology Risks: Technological Obsolescence: The fast pace of innovation in blockchain technology may make the used token standard appear less competitive or become outdated, potentially impacting the usability or adoption of the token.

6. Bridges: The dependency on multiple ecosystems can negatively impact investors. This asset bridge creates corresponding risks for investors, as this lock-in mechanism may not function properly for technical reasons or may be subject to attack. In that case, the supply may change immediately or the ownership rights to tokens may be changed.

7. Forking risk: Network upgrades may split the blockchain into separate versions, potentially creating duplicate tokens or incompatibility between different versions of the protocol.

8. Economic abstraction: Mechanisms such as gas relayers or wrapped tokens may allow users to bypass the native asset, reducing its direct demand and weakening its economic role.

9. Dust and spam attacks: Low-value transactions may flood the network, increasing ledger size, reducing efficiency, and exposing user addresses to tracking.

10. Frontend dependency: If users rely on centralised web interfaces or wallets, service outages or compromises could block access even if the blockchain itself continues to operate.

I.6 Mitigation measures

None.

Part J – Information on the sustainability indicators in relation to adverse impact on the climate and other environment-related adverse impacts

J.1 Adverse impacts on climate and other environment-related adverse impacts

S.1 Name

Crypto Risk Metrics GmbH

S.2 Relevant legal entity identifier

39120077M9TG0O1FE242

S.3 Name of the cryptoasset

PancakeSwap

S.4 Consensus Mechanism

The crypto asset that is the subject of this white paper is available on multiple DLT networks. These include: Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum, Aptos and BNB Smart Chain. In general, when evaluating crypto assets, the total number of tokens issued across different networks must always be taken into account, as spillover effects can be adverse for investors.

The following applies to Base:

Base is a Layer-2 (L2) solution on Ethereum that was introduced by Coinbase and developed using Optimism's OP Stack. L2 transactions do not have their own consensus mechanism and are only validated by the execution clients. The so-called sequencer regularly bundles stacks of L2 transactions and publishes them on the L1 network, i.e. Ethereum. Ethereum's consensus mechanism (Proof-of-stake) thus indirectly secures all L2 transactions as soon as they are written to L1.

The following applies to Linea:

The Linea Network uses a Zero-Knowledge Rollup (ZK-Rollup) architecture with a zkEVM for Ethereum compatibility, and its consensus is derived from Ethereum's own proof-of-stake security. While the Network has components like a sequencer for ordering transactions and a coordinator for network management, its consensus mechanism is fundamentally linked to the proof and verification process of zero-knowledge proofs and the security of the Ethereum mainnet. Instead of a typical decentralized consensus on a separate blockchain, the Network inherits its security and state finality from Ethereum.

The following applies to Polygon zkEVM:

Polygon zkEVM inherits Ethereum’s Proof-of-Stake (PoS) consensus for finality, while internally relying on zk-proof verification to confirm transaction validity.

The following applies to zkSync Era:

zkSync Era depends on Ethereum’s consensus layer for settlement and employs zk-proof validation for transaction integrity and state verification.

The following applies to Arbitrum:

Arbitrum is a Layer-2 (L2) solution on Ethereum that is developed using the Arbitrum technology suite. L2 transactions do not have their own consensus mechanism and are only validated by the execution clients. The so-called sequencer regularly bundles stacks of L2 transactions and publishes them on the L1 network, i.e. Ethereum. Ethereum's consensus mechanism (Proof-of-Stake) thus indirectly secures all L2 transactions as soon as they are written to L1.

The following applies to Ethereum:

The crypto-asset's Proof-of-Stake (PoS) consensus mechanism, introduced with The Merge in 2022, replaces mining with validator staking. Validators must stake at least 32 ETH every block a validator is randomly chosen to propose the next block. Once proposed the other validators verify the blocks integrity. The network operates on a slot and epoch system, where a new block is proposed every 12 seconds, and finalization occurs after two epochs (~12.8 minutes) using Casper-FFG. The Beacon Chain coordinates validators, while the fork-choice rule (LMD-GHOST) ensures the chain follows the heaviest accumulated validator votes. Validators earn rewards for proposing and verifying blocks, but face slashing for malicious behavior or inactivity. PoS aims to improve energy efficiency, security, and scalability, with future upgrades like Proto-Danksharding enhancing transaction efficiency.

The following applies to Aptos:

Aptos utilizes a Proof-of-Stake consensus based on the AptosBFT protocol, a variant of HotStuff, ensuring fast and deterministic finality.

The following applies to BNB Smart Chain:

Binance Smart Chain (BSC) uses a hybrid consensus mechanism called Proof of Staked Authority (PoSA), which combines elements of Delegated Proof of Stake (DPoS) and Proof of Authority (PoA). This method ensures fast block times and low fees while maintaining a level of decentralization and security. Core Components 1. Validators (so-called “Cabinet Members”): Validators on BSC are responsible for producing new blocks, validating transactions, and maintaining the network’s security. To become a validator, an entity must stake a significant amount of BNB (Binance Coin). Validators are selected through staking and voting by token holders. There are 21 active validators at any given time, rotating to ensure decentralization and security. 2. Delegators: Token holders who do not wish to run validator nodes can delegate their BNB tokens to validators. This delegation helps validators increase their stake and improves their chances of being selected to produce blocks. Delegators earn a share of the rewards that validators

receive, incentivizing broad participation in network security. 3. Candidates: Candidates are nodes that have staked the required amount of BNB and are in the pool waiting to become validators. They are essentially potential validators who are not currently active but can be elected to the validator set through community voting. Candidates play a crucial role in ensuring there is always a sufficient pool of nodes ready to take on validation tasks, thus maintaining network resilience and decentralization. Consensus Process 4. Validator Selection: Validators are chosen based on the amount of BNB staked and votes received from delegators. The more BNB staked and votes received, the higher the chance of being selected to validate transactions and produce new blocks. The selection process involves both the current validators and the pool of candidates, ensuring a dynamic and secure rotation of nodes. 5. Block Production: The selected validators take turns producing blocks in a PoA-like manner, ensuring that blocks are generated quickly and efficiently. Validators validate transactions, add them to new blocks, and broadcast these blocks to the network. 6. Transaction Finality: BSC achieves fast block times of around 3 seconds and quick transaction finality. This is achieved through the efficient PoSA mechanism that allows validators to rapidly reach consensus. Security and Economic Incentives 7. Staking: Validators are required to stake a substantial amount of BNB, which acts as collateral to ensure their honest behavior. This staked amount can be slashed if validators act maliciously. Staking incentivizes validators to act in the network's best interest to avoid losing their staked BNB. 8. Delegation and Rewards: Delegators earn rewards proportional to their stake in validators. This incentivizes them to choose reliable validators and participate in the network’s security. Validators and delegators share transaction fees as rewards, which provides continuous economic incentives to maintain network security and performance. 9. Transaction Fees: BSC employs low transaction fees, paid in BNB, making it cost-effective for users. These fees are collected by validators as part of their rewards, further incentivizing them to validate transactions accurately and efficiently.

S.5 Incentive Mechanisms and Applicable Fees

The crypto asset that is the subject of this white paper is available on multiple DLT networks. These include: Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum,

Aptos and BNB Smart Chain. In general, when evaluating crypto assets, the total number of tokens issued across different networks must always be taken into account, as spillover effects can be adverse for investors.

The following applies to Base:

Base is a Layer-2 (L2) solution on Ethereum that uses optimistic rollups provided by the OP Stack on which it was developed. Transaction on base are bundled by a, so called, sequencer and the result is regularly submitted as an Layer-1 (L1) transactions. This way many L2 transactions get combined into a single L1 transaction. This lowers the average transaction cost per transaction, because many L2 transactions together fund the transaction cost for the single L1 transaction. This creates incentives to use base rather than the L1, i.e. Ethereum, itself. To get crypto-assets in and out of base, a special smart contract on Ethereum is used. Since there is no consensus mechanism on L2 an additional mechanism ensures that only existing funds can be withdrawn from L2. When a user wants to withdraw funds, that user needs to submit a withdrawal request on L1. If this request remains unchallenged for a period of time the funds can be withdrawn. During this time period any other user can submit a fault proof, which will start a dispute resolution process. This process is designed with economic incentives for correct behavior.

The following applies to Linea:

Like Ethereum, the Network uses a gas system, where gas is the unit of computational effort required to process a transaction. All gas fees on the Network are paid in Ether (ETH). The Network has a base fee that is designed to stabilize at 7 wei. The base fee still decreases or increases based on network traffic, similar to Ethereum, but it does not go below 7 wei.

The Network does not require token staking for transaction validation purposes and thus provides no staking rewards. It does not offer incentives for running a full network

node. It does charge fees collected by the sequencer for transaction processing. Those fees are paid in ETH, 20% of which are immediately burned while the remaining 80% are converted to Tokens and then burned.

The following applies to Polygon zkEVM:

Validators and provers in Polygon zkEVM are rewarded in MATIC for submitting validity proofs and maintaining network performance. Transaction fees are paid in ETH or MATIC.

The following applies to zkSync Era:

zkSync Era compensates sequencers and provers through ETH-based fees. Part of the transaction costs cover proof generation, while the remainder secures Layer 2 operations.

The following applies to Arbitrum:

Arbitrum is a Layer-2 (L2) solution on Ethereum that is developed using the Arbitrum technology suite. Transaction on Arbitrum are bundled by a, so called, sequencer and the result is regularly submitted as an Layer-1 (L1) transactions. This way many L2 transactions get combined into a single L1 transaction. This lowers the average transaction cost per transaction, because many L2 transactions together fund the transaction cost for the single L1 transaction. This creates incentives to use Arbitrum rather than the L1, i.e. Ethereum, itself. To get crypto-assets in and out of Arbitrum, a special smart contract on Ethereum is used. Since there is no consensus mechanism on L2 an additional mechanism ensures that only existing funds can be withdrawn from L2. When a user wants to withdraw funds, that user needs to submit a withdrawal request on L1. If this request remains undisputed for a period of time the funds can be withdrawn. During this time period Arbitrum validators can dispute the claim, which will

start a dispute resolution process. This process is designed with economic incentives for correct behavior of all participants.

The following applies to Ethereum:

The crypto-asset's Proof-of-Stake (PoS) consensus mechanism, introduced with The Merge in 2022, replaces mining with validator staking. Validators must stake at least 32 ETH every block a validator is randomly chosen to propose the next block. Once proposed the other validators verify the blocks integrity. The network operates on a slot and epoch system, where a new block is proposed every 12 seconds, and finalization occurs after two epochs (~12.8 minutes) using Casper-FFG. The Beacon Chain coordinates validators, while the fork-choice rule (LMD-GHOST) ensures the chain follows the heaviest accumulated validator votes. Validators earn rewards for proposing and verifying blocks, but face slashing for malicious behavior or inactivity. PoS aims to improve energy efficiency, security, and scalability, with future upgrades like Proto-Danksharding enhancing transaction efficiency.

The following applies to Aptos:

Aptos incentivizes validators with APT token rewards for staking and transaction validation. Fees are dynamically adjusted to reflect network demand.

The following applies to BNB Smart Chain:

Binance Smart Chain (BSC) uses the Proof of Staked Authority (PoSA) consensus mechanism to ensure network security and incentivize participation from validators and delegators. Incentive Mechanisms 1. Validators: Staking Rewards: Validators must stake a significant amount of BNB to participate in the consensus process. They earn rewards in the form of transaction fees and block rewards. Selection Process: Validators are selected based on the amount of BNB staked and the votes received from delegators. The more BNB staked and votes received, the higher the chances of being selected to

validate transactions and produce new blocks. 2. Delegators: Delegated Staking: Token holders can delegate their BNB to validators. This delegation increases the validator's total stake and improves their chances of being selected to produce blocks. Shared Rewards: Delegators earn a portion of the rewards that validators receive. This incentivizes token holders to participate in the network's security and decentralization by choosing reliable validators. 3. Candidates: Pool of Potential Validators: Candidates are nodes that have staked the required amount of BNB and are waiting to become active validators. They ensure that there is always a sufficient pool of nodes ready to take on validation tasks, maintaining network resilience. 4. Economic Security: Slashing: Validators can be penalized for malicious behavior or failure to perform their duties. Penalties include slashing a portion of their staked tokens, ensuring that validators act in the best interest of the network. Opportunity Cost: Staking requires validators and delegators to lock up their BNB tokens, providing an economic incentive to act honestly to avoid losing their staked assets. Fees on the Binance Smart Chain 5. Transaction Fees: Low Fees: BSC is known for its low transaction fees compared to other blockchain networks. These fees are paid in BNB and are essential for maintaining network operations and compensating validators. Dynamic Fee Structure: Transaction fees can vary based on network congestion and the complexity of the transactions. However, BSC ensures that fees remain significantly lower than those on the Ethereum mainnet. 6. Block Rewards: Incentivizing Validators: Validators earn block rewards in addition to transaction fees. These rewards are distributed to validators for their role in maintaining the network and processing transactions. 7. Cross-Chain Fees: Interoperability Costs: BSC supports cross-chain compatibility, allowing assets to be transferred between Binance Chain and Binance Smart Chain. These cross-chain operations incur minimal fees, facilitating seamless asset transfers and improving user experience. 8. Smart Contract Fees: Deployment and Execution Costs: Deploying and interacting with smart contracts on BSC involves paying fees based on the computational resources required. These fees are also paid in BNB and are designed to be cost-effective, encouraging developers to build on the BSC platform.

S.6 Beginning of the period to which the disclosure relates

2024-10-20

S.7 End of the period to which the disclosure relates

2025-10-20

S.8 Energy consumption

2220.91745 kWh/a

S.9 Energy consumption sources and methodologies

The energy consumption of this asset is aggregated across multiple components: To determine the energy consumption of a token, the energy consumption of the network Base, Linea, Polygon zkEVM, zkSync Era, Arbitrum, Ethereum, Aptos and BNB Smart Chain is calculated first. For the energy consumption of the token, a fraction of the energy consumption of the network is attributed to the token, which is determined based on the activity of the crypto-asset within the network. When calculating the energy consumption, the Functionally Fungible Group Digital Token Identifier (FFG DTI) is used - if available - to determine all implementations of the asset in scope. The mappings are updated regularly, based on data of the Digital Token Identifier Foundation. The information regarding the hardware used and the number of participants in the network is based on assumptions that are verified with best effort using empirical data. In general, participants are assumed to be largely economically rational. As a precautionary principle, we make assumptions on the conservative side when in doubt, i.e. making higher estimates for the adverse impacts.

S.10 Renewable energy consumption

32.2255486008 %

S.11 Energy intensity

0.00000 kWh

S.12 Scope 1 DLT GHG emissions – Controlled

0.00000 tCO2e/a

S.13 Scope 2 DLT GHG emissions – Purchased

0.73915 tCO2e/a

S.14 GHG intensity

0.00000 kgCO2e

S.15 Key energy sources and methodologies

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 Our World in Data, see citation. The intensity is calculated as the marginal energy cost wrt. one more transaction. Ember (2025); Energy Institute - Statistical Review of World Energy (2024) - with major processing by Our World in Data. "Share of electricity generated by renewables - Ember and Energy Institute" [dataset]. Ember, "Yearly Electricity Data Europe"; Ember, "Yearly Electricity Data"; Energy Institute, "Statistical Review of World Energy" [original data]. Retrieved from https://ourworldindata.org/grapher/share-electricity-renewables.

S.16 Key GHG sources and methodologies

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 Our World in Data, see citation. The intensity is calculated as the marginal emission wrt. one more transaction. Ember (2025); Energy Institute - Statistical Review of World Energy (2024) - with major processing by Our World in Data. "Carbon intensity of electricity generation - Ember and Energy Institute" [dataset]. Ember, "Yearly Electricity Data Europe"; Ember, "Yearly Electricity Data"; Energy Institute, "Statistical Review of World Energy" [original data]. Retrieved from

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