HEURO White Paper

(Articles 51 to 53 of MiCA regulation)

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Publication date: 26 February 2026

Version 1.0

Foreword

This crypto-asset White Paper was prepared by Heuro SAS (or "**Heuro**" or the "**Company**") as part of the public offering of the crypto-asset "HEURO", abbreviated "HEUR" (or "**the e-money token**" or "**EMT**") in accordance with the provisions of Article 51 "Content and form of the crypto-asset white paper for e-money tokens" and Annex III of EU Regulation 2023/1114 (referred to as the "**MiCA Regulation**" or "**MiCAR**").

This White Paper aims to provide essential information on the characteristics, functions and risks relating to the HEURO for holder located in the European Union who are considering purchasing it. This White Paper also provides general information about the HEURO regarding the issuer, the offeror and persons seeking admission to trading, the rights and obligations attached to the HEURO, the underlying technology used for the HEURO issuance, and the corresponding risks.

This White Paper may be updated periodically by Heuro to reflect new developments regarding HEURO's offering within the European Union. Regardless of the circumstances, the most recent version will prevail over all previous versions.

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I. General information

01.	**Notification date**	This white paper was notified to the ACPR ("*Autorité de Contrôle Prudentielle et de Résolution*") on 2026-01-29.
02.	**Statement in accordance with Article 51(3) of MiCAR**	This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Union. The issuer of the crypto-asset is solely responsible for the content of this crypto-asset white paper.
03.	**Compliance statement in accordance with Article 51(5) of MiCAR**	This crypto-asset white paper complies with Title IV 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 this 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.	**Warning in accordance with Article 51(4) of MiCAR**	This e-money token 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.

II. Summary

05.	**Warning in accordance with Article 51(6) of MiCAR**	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 e-money token 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 that 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.
06.	**Characteristics of the crypto-asset**	HEURO is an EMT, available on the Ethereum and Solana networks. HEURO is designed to function as a digital means of payment, maintaining a stable value by referencing the euro (€), the official currency of the eurozone. Each HEURO token is issued at a nominal value of 1 EUR and is redeemable at par value at any time, without fees. The primary objective of HEURO is to facilitate seamless and secure digital transactions, offering users a reliable and stable medium of exchange within the digital economy. HEURO is offered by Heuro SAS, a French company authorised as an electronic money institution in France by the ACPR, in accordance with Directive 2009/110/EC. In line with the MiCAR requirements, Heuro SAS maintains a reserve of assets equivalent to the total value of HEURO tokens in circulation. This reserve comprises: • At least 30% of the funds received in exchange for HEURO tokens are held in segregated accounts with credit institutions. • The remaining funds are invested in secure, low-risk financial instruments denominated in euros, ensuring high liquidity and minimal market, credit, and concentration risks. These measures ensure the liquidity and solvency necessary for the redemption of HEURO tokens, as stipulated in Article 54 of MiCAR.
07.	**Right of redemption**	Holders of HEURO have a right of redemption at any time and at par value. Conditions and processes for redemption of HEURO are detailed in our Redemption Policy available on www.heuro.com (the "**Website**"). **1. <u>Redemption Process</u>** The redemption process for HEURO tokens is designed to be secure, efficient, and compliant with applicable regulations. The process involves the following steps: ***Step 1: Initiation of Redemption Request*** HEURO holders initiate a redemption request through the dedicated email address "redemption@heuro.com". During this process, holders must provide or confirm

		their bank account details, ensuring that the account is SEPA-compatible and registered in their name. ***Step 2: Compliance Verification*** Upon receiving a redemption request, Heuro SAS conducts necessary Anti-Money Laundering and Counter-Terrorist Financing checks in line with its compliance policies. Additional documentation may be requested to verify the identity of the holder and the legitimacy of the transaction. ***Step 3: Transfer of HEURO Tokens*** Once compliance checks are satisfactorily completed, holders are instructed to transfer the specified amount of HEURO tokens to a designated Heuro SAS wallet address. This transfer effectively removes the tokens from circulation. ***Step 4: Fund Transfer to Holder*** After confirming the receipt of HEURO tokens, Heuro SAS initiates a transfer of the equivalent amount in euros to the holder's verified bank account. The transfer is executed promptly, subject to standard banking processing times. **2. <u>Timeframe for Redemption</u>** Heuro SAS endeavors to process redemption requests within five (5) business days from the date of successful completion of all compliance checks and receipt of HEURO tokens. Actual receipt of funds may vary depending on the processing times of the receiving bank. **3. <u>Conditions and Limitations</u>** While the right of redemption is unconditional, Heuro SAS reserves the right to suspend or delay redemption requests in circumstances where: • There is a suspicion of fraudulent activity or breach of applicable laws and regulations; • Compliance checks cannot be satisfactorily completed; • Technical issues prevent the secure processing of the redemption request. • The redemption or recovery plan for Heuro SAS has been triggered.

		In such cases, Heuro SAS will communicate promptly with the holder to resolve any issues and complete the redemption process as soon as possible. **4. <u>Redemption Policy and Further Information</u>** Detailed information regarding the redemption process, including any updates or changes, is available in the Heuro SAS Redemption Policy. Holders are encouraged to review the Redemption Policy regularly and contact Heuro SAS customer support for any queries or assistance related to the redemption process.
08.	**Key information about the offer and or admission to trading**	HEURO will not be admitted yet to trading within the meaning of the MiCAR. If HEURO were to be admitted to trading on an exchange platform, this would only be done through licensed VASPs and its access is limited to persons and institutions located in supported jurisdictions.

Part A. Information about the issuer of the e-money token

A.1	**Statutory Name**	Heuro SAS
A.2	**Trading Name**	HEURO
A.3	**Legal Form**	French simplified joint-stock company (« *Société par actions simplifiée* »)
A.4	**Registered address**	FR-IDF 1 rue de la bourse, 75002 Paris - France
A.5	**Head office**	FR-IDF 1 rue de la bourse, 75002 Paris - France
A.6	**Registration date**	2017-11-01
A.7	**Legal entity identifier**	984500DB91E5A48E7F26

A.8	**Other identifier required pursuant to applicable law**	833 165 863 RCS Paris
A.9	**Contact telephone number**	+33142330587
A.10	**Email address**	support@heuro.com
A.11	**Response Time (days)**	7 days
A.12	**Parent Company**	EasyEuro technology limited, Room 1605 Ho King Commercial Centre, 2-16 Fa Yuen Street Mongkok Kowloon Hong Kong, registration number 2708950.
A.13	**Management**	Marie-Laure Paldi Directeur Général (CEO) Professional address: 1 rue de la bourse, 75002 Paris - France Patrick Starkman Président (President) Professional address: 1 rue de la bourse, 75002 Paris – France
A.14	**Business Activity**	Heuro SAS is an electronic money institution authorised to provide e-money token services, licensed by the ACPR under number 17478, authorised to issue electronic money and to provide payment services since 2 December 2021.
A.15	**Parent Company Business Activity**	EasyEuro technology limited is the holding company for the HEURO group.
A.16	**Conflict of Interest Disclosure**	No conflict of interests have been identified as of today in relation to the issuance of HEURO.
A.17	**Issuance of other crypto-assets**	No. Heuro SAS does not issue other crypto-assets.

A.18	**Activities related to other crypto-assets**	No.
A.19	**Connection between the issuer and the entity running the DLT**	Yes. Heuro SAS will initially offer HEURO on two blockchains during its launch phase: Ethereum and Solana. Heuro SAS will likely add additional blockchain support in the future and update the relevant sections of the White Paper accordingly. For each of these blockchains, Heuro SAS has independently designed and deployed the HEURO token in accordance with the respective technical standards (i.e. ERC-20 for Ethereum, SPL for Solana). While no formal agreements were required or entered into with the Ethereum Foundation, the Solana Foundation, or other blockchain protocol entities, Heuro SAS has ensured compliance with relevant network protocols and has made the HEURO token available through its application, providing appropriate support to its clients accordingly. Additionally, the HEURO application has been audited by a third-party to ensure its security and reliability.
A.20	**Description of the connection between the issuer and the entity running the DLT**	Heuro SAS, for regulatory reasons (transaction monitoring), and as part of its commitment to support the ecosystem, runs a node on each of the supported blockchains. However, the protocols deployed for the issuance of HEURO are not executed or controlled by a person closely associated with the entity controlling the DLT supporting HEURO.
A.21	**Newly Established**	No.
A.22	**Financial condition over the past three years**	Heuro SAS started its activities in December 2021. The share capital of the Heuro SAS is 2,200,000.00 EUR. The main activities of Heuro SAS are the provision of payments services, to both professional and retail client. Heuro SAS provide in particular payment services to merchants for the purposes of their activities, and to individual clients wanting to invest in digital assets through authorised CASPs established in the EEA.

		Heuro SAS has gone through a significant development in the most recent three-year period (2021-2024). During this period, Heuro succeeded in growing net banking product from EUR 935.163 to EUR 3.251.435, its profits from EUR 82.902 to EUR 1.114.480, and the number of its clients from less than 5000 to more than 2M. During this period, own funds have increased from EUR EUR 1.200.000 to EUR 2.200.000. Heuro maintains, and has done so throughout the period, a strong capitalisation to ensure both regulatory compliance and internal needs. Total equity has increased from EUR 1M to EUR 2.2M in the last three-year period. Below is a year-by-year description of Heuro SAS's financial condition since 2022. **Financial Year 2022** In 2022, Heuro SAS focused on establishing its operational framework and securing regulatory approvals. The company invested in building its core teams, developing its technological infrastructure, and forming strategic partnerships. These foundational activities were primarily financed through the company's initial capital, with no significant external debt incurred. **Financial Year 2023** The year 2023 marked a significant milestone with the launch of Heuro SAS's payment services targeting both professional and retail clients. The company began generating revenue through the provision of payment services to merchants and individual clients interested in investing in digital assets via authorized Crypto-Asset Service Providers (CASPs) within the European Economic Area (EEA). This operational expansion was supported by a prudent financial strategy, ensuring that the company's own funds remained robust and compliant with regulatory requirements. **Financial Year 2024** In 2024, Heuro SAS continued its growth trajectory, focusing on scaling its services and enhancing its technological capabilities. The company maintained a strong capital position, with own funds increasing to support ongoing operations and future developments. Investments were made in areas such as office expansion, employee recruitment, and engagement with

		legal and consulting firms to navigate the evolving regulatory landscape. Throughout this period, Heuro SAS remained free of external debt, underscoring its commitment to financial prudence and sustainability.
A.23	**Financial condition since registration**	Not applicable. Details regarding Heuro's authorization as an EMT issuer can be found on the REGAFI website at this link.
A.24	**Exemption from authorization**	No.
A.25	**E-moneytoken Authorisation**	Heuro SAS France is a licensed Electronic Money Institution under n°17478.
A.26	**Authorisation Authority**	Autorité de Contrôle Prudentiel et de Résolution (ACPR)
A.27	**Persons other than the issuer offering to the public or seeking admission to trading of the e-money token in accordance with Article 51(1), second subparagraph, of Regulation (EU) 2023/1114**	Not applicable.
A.28	**Persons other than the issuer offering to the public or seeking admission to trading of the e-money token in accordance with Article 51(1), second subparagraph, of Regulation (EU) 2023/1114**	Not applicable.
A.29	**Reason for offering to the public or seeking admission to trading**	Not applicable.

	of the EMT by persons referred to in Article 51(1), second subparagraph, of MiCAR	

Part B. Information about the e-money token

<table>
<tr><td>B.1</td><td>Name</td><td>HEURO</td></tr>
<tr><td>B.2</td><td>Abbreviation</td><td>HEUR</td></tr>
<tr><td>B.3</td><td>Details of all natural or legal persons involved in the implementation of the crypto-asset project</td><td>
<table>
<tr><td>Category</td><td>Name</td><td>Business address</td></tr>
<tr><td>Legal Advisor</td><td>Morgan Lewis & Bockius LLP</td><td>47 avenue Hoche, 75008 Paris, France</td></tr>
<tr><td>ESG Advisor</td><td>Hanzō by Lamarck Group</td><td>43-45 avenue Kléber, 75116 Paris, France</td></tr>
<tr><td>Development Team</td><td>Heuro SAS LLC tech team</td><td>1 rue de la Bourse, 75002 Paris, France</td></tr>
<tr><td>CASP</td><td>n/a</td><td>n/a</td></tr>
</table>
</td></tr>
<tr><td>B.4</td><td>Type of white paper</td><td>EMTW</td></tr>
<tr><td>B.5</td><td>The type of submission</td><td>NEWT</td></tr>
<tr><td>B.6</td><td>Crypto-Asset Characteristics</td><td>This token is categorised under Functional Fungible Group (FFG) – DTI Type 3 tokens. The FFG DTI is:

4ZTHF0N0H — Auxiliary Digital Token (Ethereum)

DP1R488SF — Auxiliary Digital Token (Solana)</td></tr>
</table>

		TFGXFRD1J — Functionally Fungible Group of Digital Tokens (N/A) In the case of HEURO, the reference fiat currency is the Euro issued by the European Central Bank. **<u>User Protection and Safeguarding of Assets</u>** • HEURO will be issued and redeemed by Heuro SAS. • The underlying funds and assets will be held in a fiduciary estate, pursuant to the Order dated 2 May 2013 on the prudential obligations of electronic money institutions. A separate fiduciary estate is created upon transfer of the funds to Heuro. These funds: • Are held exclusively for the benefit of the principals (i.e. HEURO holdersHEURO); and • Grant holders third-party beneficiary rights, including the right to redeem tokens at par value (1 HEURO = 1 EURHEURO). This fiduciary structure ensures: • Full segregation of client funds HEUROfrom Heuro's own assets and activities; • The bankruptcy remoteness of those funds, ensuring that in the event of Heuro’s insolvency, HEURO holders retain access to the underlying assets. In the event of a disruption affecting HEURO’s stability mechanismsHEURO, holdersHEURO will be recognised as beneficiaries of the fiduciary estate. HEUROAll fiat funds received in exchange for HEURO are: • Segregated within the fiduciary structure; and • Held in cash and/or low-risk cash equivalents, in a bankruptcy remote setup. **For further details, refer to the HEURO Terms & Conditions (“HEURO T&Cs”) available at www.heuro.com.** **<u>Transparency and Reporting</u>**

		- HEURO will be offered on public blockchains, including Ethereum and Solana. - This ensures visibility of tokens in circulation, as well as issuance and redemption transactions. - The use of distributed ledger technology enables: - Democratised access to transactional data; - A **consensus-driven protocol** for transaction validation and auditability. **<u>AML Measures and Transaction Monitoring</u>** Heuro conducts AML/CFT checks in line with applicable European regulatory standards, specifically: - Compliance with the 5th Anti-Money Laundering Directive (5AMLD) of the European Union; - Due diligence procedures conducted at the start of the business relationship and at regulatory-required intervals. In addition: - All fiat transactions, including those related to the issuance and redemption of HEURO, are subject to ongoing transaction monitoring. - HEUROBlockchain-based activities are monitored using fraud detection and risk assessment protocols, applicable to both Ethereum and Solana networks. **<u>Currency Risk Management</u>** All funds HEUROexchanged for HEURO are held in cash denominated in EUR or low-risk EUR-denominated cash equivalents. This ensures no exposure to cross-currency risk, in accordance with Recital 70 of MiCA.
B.7	**Website of the issuer**	www.heuro.com
B.8	**Starting date of offer to the public or admission to trading**	2026-02-26

B.9	**Publication date**	2026-02-26
B.10	**Any other services provided by the issuer**	Simultaneously with the issuance of the HEURO, Heuro SAS is authorised to issue and distribute electronic money pursuant to Directive 2009/110/EC ("**EMD 2**"). The company is also authorised to provide the following payment services under Annex I of Directive (EU) 2015/2366 ("**PSD 2**"): - execution of credit transfers, including standing orders ("Service 3c"); - acquiring of payment transactions ("Service 5"). Heuro SAS is authorised to provide these services in the following EU Member States: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.
B.11	**Language or languages of the white paper**	English
B.12	**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**	• 4ZTHF0N0H — Auxiliary Digital Token (Ethereum) • DP1R488SF — Auxiliary Digital Token (Solana)
B.13	**Functionally Fungible Group Digital Token Identifier, where available**	• TFGXFRD1J — Functionally Fungible Group of Digital Tokens
B.14	**Personal data flag**	True
B.15	**LEI eligibility**	True

B.16	**Home Member State**	France
B.17	**Host Member States**	Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

Part C. Information about the offer to the public of the e-money token or its admission to trading

C.1	**Public Offering or Trading**	OTPC
C.2	**Number of units**	Not applicable. There is no specific limit of HEURO that will be issued. The number of HEURO issued will be based on the demand for subscription.
C.3	**Trading Platforms Name**	N/A
C.4	**Trading Platforms Market Identifier Code (MIC)**	The MIC will be provided when HEURO will be effectively listed and when the platform will have obtained a MIC.
C.5	**Applicable law**	French law
C.6	**Competent court**	French courts

Part D. Information on the rights and obligations attached to e-money tokens

D.1	**Holder's rights and Obligations**	1. **Holder's Rights** HEURO holders have several rights, as described below. **Property Rights**

		Holders of HEURO tokens possess a property right over the token units recorded on the public distributed ledgers of Ethereum and Solana. Each HEURO token represents a direct and individual claim by the holder against Heuro SAS, equivalent to one euro (€1) per token. This claim is secured by funds held in a segregated fiduciary account, in accordance with the French Order of 2 May 2013 concerning the prudential obligations of electronic money institutions. The rights of holders are legally enforceable and protected against any claims by creditors of Heuro SAS. In the event of Heuro SAS's insolvency, holders retain a priority right of restitution over the fiduciary funds, in accordance with French law. HEURO tokens are freely transferable between compatible wallets, with each transfer resulting in the assignment of the associated property right. **Redemption Rights** HEURO holders who wish to redeem their tokens directly with the Issuer should follow the process listed on www.heuro.com and summarized in part 05. Purchasers can exchange their HEURO at par value for funds denominated in the official currency that the HEURO is referencing (EUR) for the monetary value of the HEURO held by Heuro for the purchaser of the HEURO. HEURO can be redeemed directly with Heuro by reaching out to redemption@heuro.com, subject to completing customer due diligence checks, and returning the relevant HEURO. Where the redeeming party is a client of Heuro, the necessary wallet screening shall take place prior to fiat being returned. Where the redeeming party is not a Heuro client they will be subject to the appropriate level of due diligence, and wallet screening, prior to successful redemption. Unless previously redeemed or recalled and cancelled, Heuro will redeem each HEURO, at the request of the purchaser, five business days following receipt of a redemption request and subject to the completion of the purchaser KYC checks and the transfer of the HEURO into Heuro burn wallet, by paying to the relevant purchaser the redemption amount. In such a case, the obligations of Heuro shall be fully discharged and the relevant purchaser shall have no further claim or recourse against Heuro. **Issuance of HEURO**

		HEURO will be issued at par value (i.e. 1 EUR for every HEURO) on the receipt of funds per the details below: **Amount of the offer:** HEURO will be initially offered in an amount of 1 million HEURO. Heuro reserves the right to further issue in the future HEURO, under identical terms as described in this white paper and in the HEURO T&Cs, depending on the purchasers or potential purchasers' future interest and subscription requests for HEURO. **Subscription target goals:** Heuro, as fiduciary, intends to have all the initially issued HEURO subscribed by the initial purchasers. As the HEURO is issued upon receipt of funds (in accordance with Article 49(3) of MiCA), the full amount of HEURO will be subscribed by purchasers. Future issuances of HEURO may be carried out by Heuro, as detailed above. **Issue price:** HEURO will be issued at par value against the funds received, i.e. 1 EUR for 1 HEUR. The issuance will be conditional on the payment of the subscription price, in accordance with the payment terms set out in the HEURO T&Cs. **Subscription fees:** Heuro will not charge any subscription fees. **Prospective holders:** The HEURO is designed to be held by any type of purchaser, including retail holders within the meaning of MiCA. Every HEURO holder will be subject to the terms of this white paper and of the HEURO T&Cs. **Description of the subscription process:** Initial purchasers in HEURO may subscribe to HEURO by submitting a subscription request to Heuro, acting as fiduciary, in accordance with the notification and communication terms detailed in the HEURO T&Cs. Any exchange, transfer or trade of HEURO resulting in a transfer of HEURO from an HEURO holder to another purchaser would be subject to the terms of this white paper and of the HEURO T&Cs. **Information on discounted purchase price for early purchasers:** HEURO will not be issued at a discounted price for early purchasers or any subsequent holders. **Subscription period:** There is no defined subscription period. HEURO may be acquired on a continuing basis. The initial issuance will occur on 1 November 2025. Further issuances may be carried out in the future, depending on the purchasers or potential purchasers future interest and subscription requests for HEURO.

		Method and time limits for issuing and delivering the HEURO: HEURO will be issued against receipt by Heuro, acting as fiduciary, of payment of the subscription funds, in accordance with the terms set out in the HEURO T&Cs. The HEURO will then immediately be issued in the digital wallet indicated by the initial purchaser. **<u>Admission to trading and transfer of HEURO</u>** HEURO would be admitted to trading in a near future on crypto-exchanges. HEURO may be used by holders to make transfers or payments, in accordance with this white paper, and the HEURO T&Cs. **2. <u>Holder's Obligations</u>** By acquiring and holding HEURO tokens, holders commit to using HEURO tokens in strict accordance with all applicable laws and regulations, including but not limited to the provisions of the MiCA Regulation and the French Monetary and Financial Code. Holders shall not use HEURO tokens for any unlawful activities, including but not limited to money laundering, terrorist financing, fraud, tax evasion and any other activity prohibited by applicable laws and regulations. In particular: • Holders agree to comply with all AML and KYC requirements as mandated by Heuro SAS and relevant regulatory authorities. This includes providing accurate and complete information during the onboarding process and promptly updating any changes to such information. • Holders confirm that they are at least 18 years of age and possess the legal capacity to enter into binding agreements. • Holders acknowledge that they are not entitled to receive any interest or other benefits related to the holding of HEURO tokens. • Holders agree to promptly notify Heuro SAS of any changes to their personal information or circumstances that may affect their compliance with these obligations. Consequently, holders are responsible for any misuse of HEURO tokens and shall indemnify Heuro SAS against any claims, damages, or losses arising from such misuse.

		By acquiring and holding HEURO tokens, holders confirm that they have read, understood, and agreed to be bound by the obligation outlined in this white paper and any other related documentation provided by Heuro SAS. **3. <u>Substitution of issuer</u>** Heuro may, without any further consent of the holders of HEURO, decide to transfer its rights and obligations related to HEURO to a new issuer in the future, subject to the following: The new issuer must be authorised either as a credit institution or as an electronic money institution, in accordance with MiCA requirements and should comply with all appropriate conditions for issuance of e-money tokens, as provided in MiCA; The transfer shall be effected only once all appropriate regulatory notifications have been carried out (including the notification and publication of an amended and restated white paper); and the transfer shall be carried out in accordance with and subject to the conditions set out in the HEURO T&Cs available on www.heuro.com. Where such a transfer would occur, all rights and obligations attached to the HEURO will be transferred and applicable to the new issuer and the new issuer shall be deemed as the issuer of HEURO.
D.2	**Conditions of modifications of rights and obligations**	Any and all amendment in the rights and obligations of Heuro or of the holders of HEURO under this white paper or under the HEURO T&Cs will be carried out in accordance with the MiCAR requirements and with the terms set out in the HEURO T&Cs (available at www.heuro.com). Heuro may amend such rights and obligations only in the following circumstances: • Regulatory or legal changes: Where such amendment is required to ensure compliance with applicable laws or regulations, including the MiCA Regulation, delegated acts adopted thereunder, or any decision, instruction or guidance issued by a competent authority. • Operational or technical adjustments: Where modifications are necessary for operational, technical or security reasons, provided that such changes do not materially and adversely affect the

		redemption rights or core characteristics of HEURO as an electronic money token. • Correction of material errors or inconsistencies: Where the amendment aims at correcting a material mistake, omission or inaccuracy that does not adversely affect the substantive rights of holders. **Procedure applicable to amendments**: • Any amendment affecting the assessment of HEURO by potential investors shall be reflected in a revised version of this White Paper in accordance with Article 51 of MiCA. • The amended White Paper shall be notified to the Autorité de contrôle prudentiel et de résolution and published on Heuros's website. • Amendments to the HEURO T&Cs shall be published on Heuro's website with reasonable prior notice, unless immediate application is required by law or by a decision of a competent authority. • Where an amendment materially and adversely affects the rights of holders, holders shall be informed in advance through Heuro's official communication channels and shall retain their right to redeem HEURO at par value in accordance with MiCA and the applicable T&Cs. No amendment may derogate from the mandatory redemption rights granted to holders under the MiCA Regulation.
D.3	**Description of the rights of the holders**	The funds transferred by the HEURO holders to subscribe to HEURO will be kept in a separate fiduciary estate, in accordance with the applicable law. Those funds will be segregated and held for the benefit of the HEURO holders as principals. In the event that Heuro SAS is not able to fulfil its obligations, including in a situation of financial distress, safeguard proceedings, or insolvency, the assets comprised in the fiduciary estate shall remain segregated from the Issuer's own assets and shall not be available to satisfy claims of other creditors of Heuro SAS, subject to mandatory provisions of applicable law. Holders of HEUROs only have rights in respect of the Fiduciary Contract (that is a pro rata share of the fiduciary estate) and not against Heuro SAS as a whole. Accordingly, in such circumstances, HEURO holders shall have an exclusive claim over the assets held within the fiduciary estate, on a pro rata basis corresponding to their respective holdings of HEURO, and shall be entitled to obtain restitution or redemption from those safeguarded

		funds in accordance with applicable law and the HEURO T&Cs. The implementation of the Recovery Plan and, where applicable, the Redemption Plan described in this White Paper is intended to ensure the orderly exercise of such rights. For additional information, please refer to the HEURO T&Cs which are published on www.heuro.com
D.4	**Rights in implementation of recovery plan**	In accordance with article 55 of MiCAR, Heuro SAS could trigger a Recovery Plan designed to ensure the stability and continuity of the HEURO token in the event of significant operational or financial distress. The Recovery Plan includes a set of quantitative and qualitative indicators to monitor the financial health and operational integrity of Heuro SAS. These indicators encompass: • Liquidity Risk Indicators: Monitoring the liquidity profile of reserve assets. • Operational Risk Indicators: Assessing risks from internal processes, systems, or external events. • Credit Risk/Asset Quality Indicators: Evaluating the quality of reserve assets. • Referenced Asset(s) Related Indicators: Tracking the alignment between the market price of HEURO and the Euro. • Capital Adequacy Indicators: Measuring the capital position of Heuro SAS. These indicators are calibrated based on Heuro SAS's specific risk profile and operating environment. Upon the breach of predefined thresholds, Heuro SAS may implement recovery options, including but not limited to: • Limiting Maximum Redemption per Day per Customer: To manage liquidity. • Slowing Redemption by Adjusting Service Offerings: To ensure orderly processing. • Pausing Redemption Activity Temporarily: To stabilize operations. • Charging Redemption Fees: To limit mass redemptions and cover operational costs. These measures are designed to be temporary and proportionate, aiming to restore normal operations while safeguarding the interests of HEURO token holders. Heuro SAS is committed to transparency and will promptly communicate any activation of recovery measures to

		relevant stakeholders, including regulatory authorities and HEURO token holders. The communication strategy includes: • Internal Communication: Informing staff and management. • External Communication: Notifying token holders, regulators, and the public through appropriate channels This ensures that all parties are adequately informed and can take necessary actions in response to the implemented recovery measures. During the implementation of the Recovery Plan, HEURO token holders retain the right to redeem their tokens at par value (€1 per HEURO), subject to any temporary measures enacted under the Recovery Plan. Heuro SAS ensures that these rights are upheld in compliance with MiCAR and applicable French law. Heuro will ensure that its Recovery Plan is amended to expand and cover a minimum set of categories of recovery plan indicators associated with issuance of stablecoin. Heuro will carefully assess the type of events that may lead to a breach of the regulatory requirements applicable to Heuro and assign appropriate indicators that are both quantitative and qualitative in nature. Furthermore, Heuro will put in place specific mitigants to protect the rights of the holder and value of the tokens e.g. the assets will be placed in segregated accounts (i.e. fiduciary) and thus not affected by any insolvency proceedings Heuro may face. In case of any breaches of these recovery plan indicators, Heuro's recovery options, including those that would strengthen the capital position and improve the liquidity position of Heuro, are aligned with the triggered threshold indicator and its escalations and communication plans are adapted to cover the stakeholders concerned. Moreover, in this context, it can be noted that the main shareholder maintains a firm commitment to support Heuro so that it remains compliant with all capital, liquidity and other applicable prudential regulations and thus will be able to cover any upcoming funding needs.
D.5	**Rights in implementation of redemption plan**	In accordance with article 55 of MiCAR In accordance if Heuro SAS is unable, or likely to be unable, to fulfil its obligations, including in cases of insolvency, resolution, or withdrawal of authorisation as an Electronic Money

		Institution, the ACPR may trigger the Redemption Plan in order to reimburse all HEURO holders. In the context of the implementation of the Redemption Plan for crypto-assets under MiCAR, certain rights ensure that the process is carried out fairly, transparently, and efficiently. These rights are crucial for maintaining the integrity of the redemption process and protecting the interests of all stakeholders involved. Key rights on the purchasers in the implementation of the Redemption Plan: **<u>Rights to Secure Transactions</u>** Purchasers have the right to secure and private handling of the redemption requests and associated data. All transactions must be conducted though secure channels to protect against fraud and unauthorised access. **<u>Right to Timely Redemption</u>** Purchasers are entitled to timely processing of their redemption requests. Subject to completing customer due diligence checks HEURO repayments must be completed within five business days, ensuring purchasers have access to their funds promptly. **<u>Right to Equitable Treatment</u>** All purchasers must be treated equitably, with their redemption requests processed in a fair and impartial manner. This guarantees no favouritism or discrimination, preserving trust in the redemption process. **<u>Right to Dispute Resolution</u>** In case of any issues during the redemption process, holders have the right to access an efficient process for dispute resolution as detailed in section D.8 of this white paper, and any grievance are addressed promptly and fairly. **<u>Right to Regulatory Recourse</u>** If disputes are unresolved, holders have the right to escalate their concerns to relevant regulatory authorities, providing an additional layer of protection and ensuring compliance with MiCA regulations. **<u>Right to Information and Updates</u>** Purchasers have the right to receive timely updates on the status of their redemption requests and any changes to

		the redemption process. This transparency helps holders stay informed and confident in the redemption process. **<u>Right to effective execution</u>** The holders have the right to expect that the redemption plan is implemented effectively and in accordance with the outline's procedures. This ensures that all aspects of the redemption process are carried out as promised and without unnecessary delays. **<u>Right to Access Support and Resources</u>** The holders have the right to access support services and resources to assist with the redemption process. This includes customer service support, details FAQs, and guidance documents to help navigate the redemption procedures. The rights associated with the implementation of the redemption plan are essential to ensure that the process is carried out effectively, transparently, and fairly. These rights protect stakeholders' interests and uphold the integrity of the redemption process under MiCA, fostering trust and confidence in the crypto asset market.
D.6	**Complaint Submission Contact**	support@heuro.com
D.7	**Complaints Handling Procedures**	The handling of a complaint shall be fair, reasonable, prompt and in line with the timeframes described below. A complaint may be escalated to the person in charge of complaints at the management level if the complainant has not received a satisfactory resolution within 15 days, or more if Heuro states a valid reason for the delay, after the first instance the complaint was filed. The service levels and owners for each category are specified below.

Complaint Type	Owner	Service Level (maximum time)
(Reportable) Complaint	Compliance	One business days to escalate to Compliance (support@heuro.com). Three business days for acknowledgement

					of response following the day on which the complaint was received. A final answer must be provided to the complainant within one month after receipt of the complaint. If an answer cannot be provided within that timeframe, a notification explaining the causes of the delay and an indication of the date at which examination is likely to be achieved must be sent to the complainant. Exception: if the complaint relates to payments or redemption, a final answer must be provided within 15 business days after the complaint was received. If an answer cannot be provided within that timeframe, a notification explaining the causes of the delay and an indication of the date at which the investigation is likely to be achieved must be sent to the complainant. The deadline for a final answer may not exceed 35 business days after the complaint was received.

Management Escalated Complaint	Compliance	One business days to escalate to Compliance. Five business days for first response. 30 days to provide an answer to the complainant and either reach a resolution or agree on next steps with a plan to satisfy the complainant's concerns.
Inquiry	Client Services	Per client services service levels.
Recalls	Client Services	Per client services service levels.

The follow-up actions for each category are defined below.

External Third Party escalation (non-Client)	**Action**
Inquiry	Client Services to handle inquiries unless the inquiry is directly addressed to the compliance or complaints inbox. Escalate to compliance as a complaint only if there is a threat of litigation, abusive behaviour, and AML concern, sufficient suspicion of fraud, or threat of a formal complaint.
Redemption	• Client Services will work with payments operations to

	process the redemption request. • If the redemption cannot be successfully processed, client services should respond to customer with status and any next steps including filing a police report and contacting the holder. • If the victim threatens litigation or escalates, escalate to support@heuro.com. In some cases, when funds are no longer there, compliance will reach out directly to the merchant, to request a refund.

Complaint Type	**Complaint Type**
Reportable Complaint	Forward to heuro.com within one business day. Compliance will respond and track the complaint to its closure. The complaint is either accepted and, where appropriate, redress is offered, or rejected.

Where an answer cannot be provided within the abovementioned periods, the owner should inform the complainant of the causes of the delay and indicate the date at which a response or resolution can be achieved.

		If the investigation results in a conclusion that a compensation must be paid to the holder or to the victim, the amount of the compensation must be approved by the authorised manager.
D.8	**Dispute Resolution Mechanism**	Holders of HEURO may submit to Holders of HEURO may submit to Heuro any complaints they may have in connection with the HEURO and their rights and obligations under this white paper and the T&Cs, in accordance with the complaints handling process detailed in this white paper. Where no satisfactory solution is found, HEURO holders have the right to submit a complaint to the mediator of the association française des établissements de paiement et de monnaie électronique (AFEPAME), through its out-of-court complaint resolution mechanism, subject to the conditions and procedure detailed on its website: https://mediateur-consommation-afepame.fr/la-saisine/. Where no satisfactory solution is found or where the complaint is not deemed receivable by the mediator of the AFEPAME, holders of HEURO have the right to initiate legal proceedings with the competent Frech courts, in accordance with the provisions of the T&Cs. any complaints they may have in connection with the HEURO and their rights and obligations under this white paper and the T&Cs, in accordance with the complaints handling process detailed in this white paper.
D.9	**Token Value Protection Schemes**	Yes.
D.10	**Token Value Protection Schemes Description**	HEURO will be issued and redeemed by Heuro and the underlying safeguarded funds and assets will be held under a fiduciary arrangement governed by the 2003 Act. As a separate fiduciary estate is created pursuant to the transfer of the funds to Heuro, the funds will be held for the benefit of the principals (i.e. the holders of the HEURO) in relation to the fiduciary estate. In this instance, the fiduciary grants token holders' rights as third party beneficiaries, in particular the right to redeem the tokens against the fiduciary estate at par value (i.e. 1 EUR for every HEURO). This arrangement ensures full segregation of the funds in a dedicated fiduciary estate which in turn is segregating the value of the HEURO separate from Heuro's own assets and activities, so that they are only dedicated to such

		purpose, and the funds are bankruptcy remote in the event of an insolvency of Heuro. Upon events that would threaten the stability mechanisms of the HEURO, the holders of HEURO will be recognised as beneficiaries of the fiduciary estate. Within the fiduciary structure, all HEURO holder funds received in exchange of HEURO will be segregated and held in cash and/or low risk cash equivalents in a bankruptcy remote structure. For additional information, please refer to the HEURO, T&Cs available on www.heuro.com.
D.11	**Compensation Schemes**	No.
D. 12	**Compensation Schemes Description**	Not applicable.
D.13	**Applicable law**	French law
D.14	**Competent court**	French courts

Part E. Information on the underlying technology

E.1	**Distributed ledger technology**	DLT uses cryptography to securely store data and cryptographic signatures and keys to allow access only to authorised users. The technology also creates an immutable database, which means information, once stored, cannot be deleted and any updates are permanently recorded for posterity.
E.2	**Protocols and technical standards**	Tokens will be issued on the Ethereum and Solana blockchains which follow the ERC-20 and SPL protocols respectively. These decentralised blockchains provide the ability for consensus confirmation of transactions using a Proof of Stake mechanism ("PoS") for Ethereum Blockchain and the Proof of stake Authority ("PoSA") for Solana, immutability of records, and public transparency to market participants. Both Ethereum and Solana provide the ecosystem of users with the ability to incorporate HEURO into smart contracts, benefitting users with faster, stable, and frictionless settlements. In

		time, HEURO may be issued on other blockchains to bring the benefits of the token to a wider audience of developers and end users. The addition of subsequent blockchains will be subject to criteria covering technical diligence, the extent of market adoption of the blockchain, and risk review. For the purpose of the initial issuance of HEURO, it will be done on Ethereum Virtual Machine ("EVM") - compatible chains. These are blockchain networks that adhere to the same set of standards and protocols as the Ethereum blockchain. For instance, we will be launching the token on the Ethereum and Solana, which uses ERC-20 and SPL standards respectively. The smart contracts created and maintained by the Issuer are based on open source software and subject to ongoing global peer and security review, which will be evolved by internal engineers and open source developers around the world. By using established public ledgers, market participants can utilise existing monitoring applications to view coins in issuance and transactions. In this way, participants can follow coins issued or redeemed by Heuro as well as other on-chain transactions. Noting that distributed ledger technology subject to transaction verification via the PoS consensus mechanism may result in verification fees paid to participants engaged in consensus activities. Fees may vary across blockchains.
E.3	**Technology Used**	Safeheron provides a tokenisation platform with the inbuild wallet management infrastructure and governance rules with customisable delegation of authority for adherence to Heuro's risk appetite and policies. They are a leader in the institutional grade Multi-Party Computation (MPC) wallet as a service, which combines MPC-CMP with hardware isolation to create a multi-layer security technology. This eliminates a single point of failure and insulates digital assets from cyber-attacks, internal collusion, and human error. In this technology, the private key is broken up into shares, encrypted and divided among different parties. These independent parties will independently compute their part of the private key to produce a signature without revealing the encryption to other parties. This enables the automation of transactions, minting, and burning of tokens in a secured manner.

E.4	**Purchaser's technical requirements**	An ERC-20/SPL wallet is required. We will be distributing the EUR EMT through whitelisted wallets of the platforms that are regulated by the centralised exchange. This does not exclude non-custodial wallets from transferring and receiving HEURO. Hence, the purchaser of HEURO will have to fulfil onboarding requirements in that centralised exchange and will be using the centralised exchange's wallet to hold the HEURO. Only then, are they able to gain control over the HEURO.
E.5	**Consensus Mechanism**	For the initial launch, we will be issuing tokens on Ethereum and Solana. The former uses the Proof-of-Stake Mechanism, whereas the latter uses a consensus model combined with Proof-of-Stake and Proof-of-History.
E.6	**Incentive Mechanisms and Applicable Fees**	For the initial launch, we will be issuing tokens on the Ethereum and Solana, of which both uses the Proof-of-Stake Mechanism. **<u>Ethereum:</u>** Validators create blocks. One validator is randomly selected in each slot to be the block proposer. Their consensus client requests a bundle of transactions as an 'execution payload' from their paired execution client. They wrap this in consensus data to form a block, which they send to other nodes on the Ethereum network. This block production is rewarded in ETH. **<u>Solana:</u>** Requestor prepares to send token and sign the transaction and then the transaction is sent to Solona network. The transaction is broadcast to Solana validators, and validators confirm the transaction using Solana's hybrid consensus (PoH + PoS). Same as Ehtereum, the validators are get rewords for confirming transactions.
E.7	**Use of Distributed Ledger Technology**	False Not applicable as the DLT was not operated by Heuro or a third party as only permissionless/public blockchains will be used.

E.8	**DLT Functionality Description**	Not applicable as the DLT was not operated by Heuro or a third party as only permissionless/public blockchains will be used.
E.9	**Audit**	True An audit of the technology has been conducted by PeckShield.
E.10	**Audit outcome**	The conclusion of the report dated 29 May 2025 regarding Ethereum is the following: "In this security audit, we have examined the HEURO contract design and implementation. During our audit, we first checked all respects related to the compatibility of the ERC20 specification and other known ERC20 pitfalls/vulnerabilities and found no issue in these areas. We then proceeded to examine other areas such as coding practices and business logics. Overall, no major issue was found in these areas, and the current development follows the best practice. Meanwhile, as disclaimed in Section 1.4, we appreciate any constructive feedbacks or suggestions about our findings, procedures, audit scope, etc." The conclusion of the report dated 29 May 2025 regarding Solana is the following: "In this security audit, we have examined the HEURO Token design and implementation. During our audit, we first checked all respects related to the compatibility of the SPL specification and other known SPL pitfalls/vulnerabilities and found no issue in these areas. We then proceeded to examine other areas such as coding practices and business logics. Overall, although no critical or high level vulnerabilities were discovered, we identified one issue that need to be promptly addressed. Meanwhile, as disclaimed in Section 1.4, we appreciate any constructive feedbacks or suggestions about our findings, procedures, audit scope, etc." The minor issue identified during the audit on Solana (and mentioned above) has since been addressed and resolved by the Heuro SAS teams, ensuring a high level of security for the HEURO offering.

Part F. Information on the risks

F.1	**Issuer-Related Risks**	Heuro, as a e-money has some common key risks that are faced across the financial services industry, of which if materialising, can impact Heuro's operations, financial stability, and overall business model. These risks include financial risks (including capital and liquidity risks), credit and counterparty risk, market risk, AML/CTF risk, system stability and operational resilience, outsourcing and third party risks, information and cyber security risks, data management and regulatory compliance. Furthermore, Heuro also takes concentration risk, emerging and macro risks, and reputational risks into consideration when carrying out its assessments of its activities. As a separate fiduciary estate, the assets will be segregated and held for the benefit of the principals and this separate estate is not affected by any insolvency proceedings that may be opened in respect of Heuro.
F.2	**Token-Related Risks**	**Peg Risk:** refers to the risk that a token's price may deviate from its pegged value, which is usually 1:1 with a particular fiat currency such as the Euro. EMTs are designed to maintain a stable value in order to facilitate their use in transactions and to reduce volatility for users. The right to redeem at par with the issuer works as an anchor. However, peg risk can arise when there is a sudden change in the demand or supply of a token. For example, if demand for a token suddenly increases, the token's price may rise above its pegged value. On the other hand, if demand for the token decreases, its price may fall below its pegged value. Note, as stated in the rights and obligations section of this paper, holders of HEURO will have the right to redeem tokens at par value and at any time with the Issuer. **Regulatory Risk:** excluding the EEA where MiCA is applicable, e-money tokens are not yet regulated in many jurisdictions. This lack of regulation means that e-money tokens may face regulatory hurdles, such as restrictions on usage or outright bans, which could negatively impact their value. **Liquidity Risk:** tokens may be subject to liquidity risks. This means that it may be difficult to buy or sell tokens, especially during periods of market stress. Note, as mitigation, the holder of HEURO will have the right to redeem the token at par value directly with the issuer at any given point in time; in this way, tokens can be

		converted into cash without engagement with another market participant on the secondary market.
F.3	**Technology-Related Risks**	**Smart Contract Risk:** Many tokens are built on blockchain technology and use smart contracts to manage transactions. Smart contracts are computer programs that automatically execute when certain conditions are met. If there is an error in the code or if the smart contract is not designed correctly, it can lead to financial losses for purchasers. Note, the Heuro smart contract has been audited by PeckShield. and is available on www.heuro.com for external review. **Technology Operational Risk:** tokens require technical infrastructure to operate. If there are issues with the technology used to manage the token, such as bugs or security breaches, it can lead to financial losses. Note, HEURO offering combines the expertise and operational infrastructure of leading banking and blockchain companies. Heuro has in place, strong technology operations risk identification and treatment plans, including exhaustive testing, peer review of code, automated software deployment and adequate alerting and monitoring of systems to immediately act and remediate any potential bugs/risks, with in stipulated service level agreements, based on severity and impact. **Forking Risk:** tokens that are built on blockchain technology may be subject to a "fork" where the blockchain splits into two separate blockchains with a different consensus. Note, In almost all cases, the issuer will follow the one that is supported by the blockchain's official foundation. Blockchain Uptime Risk refers to the risk that a blockchain network may experience a significant interruption or outage, which can lead to disruptions in the availability and functionality of the blockchain. In a blockchain network, nodes or validators work together to verify and validate transactions, and these nodes must remain connected to the network to maintain its functionality. However, there are a variety of factors that can impact the uptime of a blockchain network, including technical issues, security breaches, and attacks by malicious actors. If a blockchain network experiences a significant interruption or outage, it can have a variety of negative consequences. For example, transactions may be delayed or lost, users may be unable to access their funds or participate in the network, and the overall value and reputation of the blockchain may be negatively impacted. To mitigate blockchain uptime risk, blockchain networks typically implement a variety of technical and

		organisational measures, such as redundancy, failover mechanisms, and regular security audits. Additionally, users can also take steps to reduce their exposure to blockchain uptime risk by diversifying their holdings across multiple blockchain networks and using best practices for securing their crypto-assets. Blockchain Security Risk refers to the potential vulnerabilities or weaknesses in the design, implementation, or use of blockchain technology that could compromise the security and integrity of the blockchain network, its users, and the crypto-assets stored on it. One of the primary security risks associated with blockchain technology is the potential for attacks on the network or individual nodes. These attacks can take a variety of forms, including denial-of-service attacks, 51% attacks, and Sybil attacks, among others. To mitigate blockchain security risks, blockchain networks typically employ a variety of security measures, including encryption, authentication, access controls, and consensus algorithms.
F.4	**Mitigation measures**	The Issuer has obtained the Business Continuity Plan of Safeheron who maintain a backup server's infrastructure at a separate location within the Alibaba Clould environments. The backup server's infrastructure has been designed to provide clients with business-critical services until the disaster has been resolved and the primary system is fully restored. In addition, also have a service level agreement with Safeheron for a Monthly Uptime Percentage of 99.9%.

Part G. : Information on the sustainability indicators in relation to adverse impact on the climate and other environment-related adverse impacts

	Adverse impacts on climate and other environment-related adverse impacts	Below are the key information on the adverse impact of HEURO on climate and other environment-related adverse impacts, in accordance with commission Delegated Regulation (EU) 2025/422 of 17 December 2024 supplementing Regulation (EU) 2023/1114 of the European Parliament and of the Council with regard to regulatory technical standards specifying the content, methodologies and presentation of information in respect of sustainability indicators in relation to adverse impacts on the climate and other environment-related adverse impacts.

I. Principal Adverse Impacts (PAI)

We identified the following material PAIs related to the issuance and management of our stablecoin on Solana & Ethereum.

<table>
<tr><th>Category</th><th>Sub category</th><th>Principal adverse impacts</th><th>Regarding stablecoin's blockchain (Ethereum)</th><th>Regarding stablecoin's blockchain (Solana)</th></tr>
<tr><td rowspan="2">Energy Consumption</td><td>Energy Usage</td><td>Some blockchain networks require substantial computational power and energy. This leads to high electricity consumption, which can have a significant environmental footprint.</td><td>Ethereum is a widely-used blockchain platform known for its smart contract functionality. It has undergone significant changes to improve its energy efficiency by moving from Proof-of-work (PoW) to Proof-of-Stake (PoS) in 2022. This change has drastically reduced its energy consumption by approximately 99.84%. [1] [2]</td><td>In 2025, Solana is the most used blockchain platform in term of number of transactions and total value lock. Like Ethereum, Solana use PoS, so validators do not compete to burn energy. Solana improve PoS with Proof of History (PoH), an innovative cryptographic clock that orders transactions efficiently without consuming much energy. Validators simply verify cryptographic proofs rather than performing repetitive calculations.</td></tr>
<tr><td>Carbon Emissions</td><td>The energy used by blockchain networks is often derived from fossil fuels, especially in regions where renewable energy sources are not prevalent. This can result in substantial carbon emissions, contributing to climate change.</td><td colspan="2">Given that the energy consumption of both blockchains, Ethereum & Solana, is extremely low compared to PoW blockchains, its corresponding carbon footprint should be low as well.

Blockchain nodes tend to be highly localized in country that have low carbon energy thanks to nuclear or renewable energies because of network reliability but also for economic reasons.

Solana nodes are widely deployed on cloud datacenters that have been specialized to their specific requirements, namely Latitude, Vultr, Terraswitch, UAB Cherry or WebNX. Datacenters provide significant resources usages optimizations, including water usage.

Solana communicates on its initiatives for carbon compensation. However, following carbon footprint best practices, we decided to exclude the compensation from our study.</td></tr>
</table>

[1] https://digiconomist.net/ethereum-energy-consumption

[2] https://indices.carbon-ratings.com/ethereum-merge

E-Waste	Hardware Degradation	The hardware used for mining and maintaining blockchain networks, such as specialized ASIC (Application-Specific Integrated Circuit) machines and GPUs (Graphics Processing Units), has a limited lifespan. This leads to the generation of electronic waste (e-waste) when outdated equipment is discarded.	Ethereum PoS consensus mechanism does not require specific hardware. Validators run on standard servers, cloud instances, or even consumer hardware with low failure or obsolescence rates.	Unlike PoW blockchains, Solana PoS + PoH do not need specific hardware that have short lifecycle but because of its network velocity and high throughput, Solana's validators need high-performance servers. Hardware obsolescence is linked to regular server upgrade between 3 to 5 years.
	Resource Extraction	Production of electronic equipment requires the extraction of numerous materials. This extraction process can have detrimental environmental impacts, including habitat destruction, soil and water pollution, and increased carbon emissions.	The need for specific mining equipment in PoW systems leads to more resource extraction for their production. This issue is less of a concern with PoS systems like Ethereum or Solana, where standard computing devices can be used.	
Water Usage	Cooling Requirements	Data centers and mining operations generate substantial heat, necessitating cooling systems that often consume large amounts of water. This can strain local water resources, particularly in areas already facing water scarcity.	Since PoS systems generate less heat due to their reduced compute requirements, they require less cooling, which further decreases energy consumption.	
	Energy production	Power plants, depending on their type, can have an important water consumption. This can strain local water resources, particularly in areas already facing water scarcity.	By minimizing its energy demand, Ethereum & Solana indirectly contribute to the preservation of water resources and the reduction of the overall environmental impact.	
Land usage & Environmental Degradation	Energy production	Power plants and large-scale mining operations can have direct environmental impacts on local ecosystems. For example, mining facilities often require significant land use, which can lead to deforestation and the destruction of natural habitats.	We mainly consider the land use relate to the energy production required to run the blockchain networks. We can remark that PoS consensus mechanism requires less physical space than PoW systems, as there is no need for massive mining infrastructure. This reduces the impact on land use.	

II- General information and key indicators

From the presented PAIs, we decided to provide a limited set of environmental indicators.

First, we will study the global blockchain infrastructure impact and then extrapolate the numbers to the stablecoin.

A. Sustainability of the Ethereum & Solana Blockchains

1) Energy

The energy consumption of the Ethereum & Solana blockchains is relatively low compared to many other blockchain networks. According to a report by the Crypto Carbon Ratings Institute (CCRI), the energy consumption of the Ethereum network is significantly reduced due to its use of a Proof of Stake (PoS) consensus mechanism, especially when compared to Proof of Work (PoW) networks like the former Ethereum network or Bitcoin.

As both Ethereum and Solana are settlement layers, so called Layers 1, they secure their transactions on their own network and do not need to assess other network environmental footprint. Specific metrics from the CCRI indicate that the annual energy consumption of Solana and Ethereum are minimal, contributing positively to its environmental sustainability efforts (SOLANA Dashboard by CCRI & ethereum.org & CCRI POS Report).

Pease find below the details of environmental metrics on both Ethereum and Solana networks:

The Solana network's annual energy consumption is approximately **16,695,911 kWh** and the Ethereum network's annual energy consumption is approximately **4,878,407 kWh**, using respectively **61,44%** and **66.24%** of non-renewable energy. The energy intensity (amount of energy used by validated transaction) is very low: **0.007 Wh/Tx** on the Solana network and **0.009 Wh/Tx** on the Ethereum network.

We provide also an alternative measurement for carbon footprint available in the grids below.

Adverse Sustainability Indicator	Perimeter	Value	Metric Description	Methodoogy/Explanation/Sources
Energy consumption	Solana	(1) 16,695,911 kWh/year (2) 15,406,102 kWh/year	Total amount of energy used, expressed in kilowatt-hours (kWh) per calendar year. Underlying metrics: a) Best guess node consumption: 1,938.85 kWh/year (as per CCRI estimate) b) Active nodes: 7946 (source PolygonScan node tracker	Based on CCRI Energy Efficiency and Carbon Footprint of the Polygon Blockchain, CCRI Indices & Solana Climate Report Ethereum and Solana are both PoS network. The global energy consumption is derived from: a) an estimation of the energy consumption of a node defined as a hardware and software configuration requiring a specific electricity power, b) the number of active nodes of the blockchain. It must be noted that CCRI's methodology limits the number of nodes to the number of validators

	Ethereum	1) 4,878,407 kWh/year 2) 4,346,541 kWh/year	Total amount of energy used, expressed in kilowatt-hours (kWh) per calendar year. Underlying metrics: a) Best guess Eth node consumption: 547.01 kWh/year (as per CCRI estimate) b) Eth Beacon nodes: 7946 (source MigaLabs Ethereum Monitor: https://monitoreth.io/nodes (as of May, 2025)	First value is the value as reported by CCRI. Second value is recalculated with actualized datas we collected
Non-renewable energy consumption	Solana	1) 60.79% 2) 65.49%	Share of energy used generated from nonrenewable sources, expressed as a percentage of the total amount of energy used per calendar year, for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions.	Using validator node geographical distribution at the country level and national energy production mix data, we can estimate the share of non-renewable energy consumption. First value is the value as reported by https://climate.solana.com/mica-compliance. Second value is recalculated with actualized data we collected via https://www.validators.app & https://solscan.io. 27.8% of nodes are localized in the USA, 16.4% in Germany, 14.5% in Netherlands, 6.1% in United Kingdom, 5.7% in Russia, 0.6% in France, 0.6% in Japan and 28% in the rest of the world. Share of renewable energy is sourced from: https://ourworldindata.org (as of 2022) Alternative source for electricity production energy mix and renewable share can be considered: • (EIA US energy mix)

				• 2022 EU energy report from European Conseil on renewable energy production.
	Ethereum	66.24%		For Ethereum, we use the following sources to identify the node distribution and the report on renewable energy. • https://monitoreth.io/nodes (as of June 21st, 2024) • https://ourworldindata.org/renewable-energy (as of 2022)
Energy intensity	Solana	0.007 Wh/Tx	Average amount of energy used, in kWh, per validated transaction.	Metrics from CCRI
	Ethereum	0.009 Wh/Tx		

Land use	Solana	~68.94 ha		

	Ethereum	~19.25 ha	Land use for the electricity production related to the upkeep of the blockchain network in ha.	We use the geographical distribution of validator nodes and related energy consumption, the national energy mix and available data for land and water used for unit of energy production. Sources : • https://www.statista.com • https://ember-climate.org • [EIA.gov](EIA.gov) • Chathamhouse.org • Waterfootprint.org
Water footprint	Solana	~16,620 m^3	Water consumption in m^3 for the electricity production related to the upkeep of blockchain network. These values include water used for cooling and steam generation in power plants and account for both renewable and non-renewable energy mixes.	
	Ethereum	~5,205 m^3		

2) GHC Emissions

Estimated carbon emissions are divided in 3 scopes:

1. **Scope 1: Direct emissions.** These are direct emissions from owned or controlled sources. For a blockchain network, this would include emissions from the physical infrastructure directly operated by the network, such as power plants that fuel data centers or mining rigs. As neither Solana nor Ethereum "own" power plants or emit directly on-site.

2. **Scope 2: Indirect Emissions from Purchased Energy.** These are indirect emissions from the generation of purchased energy. For Ethereum, this would include emissions from the electricity consumed by the network's operations. As validators use electricity to run servers that’s the most significant kind of emission for a blockchain network.

3. **Scope 3: Other Indirect Emissions.** These are all other indirect emissions that occur in the value chain of the reporting company, including both upstream and downstream emissions. Includes emissions from producing servers/GPUs, hardware disposal or transportation for a blockchain.

By analyzing energy consumption based on the geolocation of nodes and the corresponding regional energy mix, we can convert the electricity usage of each node into carbon emissions, allowing us to estimate the network’s Scope 2 footprint. Scope 3 is estimated on the basis of the total lifecycle of an average miner hardware.

As of May 2025, the Ethereum network comprises **7946 consensus nodes**, while the Solana network operates with **1,368 nodes**. Solana’s nodes are more energy consuming; they also have higher throughput.

So by translating energy consumption into greenhouse gas emissions, the Solana network’s estimated annual carbon footprint for 2024 amounts to **6,879.2 tCO_2e** across all scopes. This includes **0 tCO_2e for Scope 1**, **5,240.2 tCO_2e for Scope 2**, and **1,639 tCO_2e for Scope 3** emissions. For comparison, the annual footprint in 2023 was approximately **12,899 tCO_2e**, highlighting the fact that continuous technological advancements — particularly network layer optimizations — have significantly reduced Solana's energy consumption and related emissions.

The Ethereum network’s estimated annual carbon footprint for 2024 amounts to **1,623.52 tCO_2e** across all scopes. This includes **0 tCO_2e for Scope 1**, **1,513.8 tCO_2e for Scope 2.** There is no public data about Scope 3 for Ethereum, by assuming that average validator is a Raspberry Pi-like server (5 watts) and that 50% of validators are running on cloud service (500 watts) and converting in emissions regarding the geographical distribution, we can roughly estimate **109.72 tCO_2e for Scope 3** emissions.

Both networks exhibit a similar but very low greenhouse gas intensity per validated transaction, averaging **0.002 gCO_2e/Tx for Solana** and **0.003 gCO_2e/Tx for Ethereum**.

3) Production Waste

Generation of waste electrical and electronic equipment (WEEE)[3]	Solana	3.42 t/year	Total amount of WEEE generated for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions, expressed in tonnes per calendar year. Underlying metrics: - Validator nodes count - Validator node best guess hardware proposal	We used a hardware lifecycle model that assumes: a) Each validator node runs on server-grade hardware, which eventually becomes e-waste. b) Average Ethereum server hardware produce ~0.1 kg & average Solana server hardware produce ~15 kg with ~50% of validators running on virtualization or cloud services c) Hardware doesn't last forever: we assume a 3-year lifecycle, meaning about one-third of nodes are replaced every year. d) We multiply the number of validator nodes by the average weight of the hardware, then divide by the lifecycle to get annual WEEE generation.
	Ethereum	460 kg/year		
Non-recycled WEEE ratio[4]	Solana	77.7%	Share of the total amount of WEEE generated for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions, not recycled per calendar year, expressed as a percentage.	As of 2022, only **22.3%** of global electronic waste (e-waste) was formally collected and recycled, leaving approximately **77.7%** unaccounted for or improperly managed.[3]
	Ethereum	77.7%		
Generation of hazardous waste[5]	Solana	684 kg/year	Total amount of hazardous waste generated for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions, expressed in kg per calendar year	According to the UN's Global E-waste Monitor, approximately **2%** of the total e-waste mass is considered hazardous waste due to components like batteries, circuit boards, heavy metals, etc.
	Ethereum	9.2 kg/year		

[3] https://www.who.int/news-room/fact-sheets/detail/electronic-waste-%28e-waste%29

B- Sustainability of the stablecoin

1) Transaction scenarios

The environmental impact of the stablecoin is directly deduced from the following data:

- The global environmental footprint of the blockchain infrastructure
- The total average yearly volume of transactions
- The estimated yearly volume of transactions of the stablecoin

For this reason, we need to propose different scenarios of transactions volumes given the stablecoin issuing volume.

We base our estimate on stablecoin transactions volume from Visa stablecoins activity tracker: https://visaonchainanalytics.com

This provides the total number of transactions from May 2024 to April 2025, i.e. 12 months, on Solana & Ethereum, adjusted and unadjusted. The adjusted criteria aim to remove potential distortions that can arise from certain activity, such as high-frequency trading and bots.

Stablecoin Cumulative Metrics

Show Adjusted Only | 1M | 3M | 6M | 12M | 24M | All

Source: Allium - Stablecoin Transactions

Stablecoin	Blockchains	USD Volume	Total Transactions
USDT	solana	$68.3B	26.7M
USDT	ethereum	$1.0T	41.4M
USDP	solana	$21.9M	326.2k
USDP	ethereum	$837.6M	17.4k
USDC	solana	$249.3B	86.1M
USDC	ethereum	$1.4T	19.1M
PYUSD	ethereum	$7.6B	503.4k
PYUSD	solana	$5.2B	1.5M
FDUSD	ethereum	$25.2B	11.4k

Stablecoin Cumulative Metrics

Show Adjusted Only 1M 3M 6M 12M 24M All

Source: Allium · Stablecoin Transactions

Stablecoin	Blockchains	USD Volume	Total Transactions
USDT	ethereum	$3.0T	70.5M
USDT	solana	$589.1B	351.3M
USDP	ethereum	$2.0B	33.1k
USDP	solana	$47.2M	690.4k
USDC	solana	$8.9T	1.6B
USDC	ethereum	$4.4T	45.9M
PYUSD	solana	$34.0B	14.8M
PYUSD	ethereum	$27.6B	655.2k
FDUSD	ethereum	$89.3B	24.1k

We observed no clear correlation between transaction volume and the quantity of stablecoins issued on various blockchain networks.

However, in blockchains that do not impose effective constraints on Maximal Extractable Value (MEV) extraction, such as Ethereum and Solana, a substantial proportion of stablecoin transactions are attributable to MEV-related activities. Available data indicate that, on Ethereum, MEV operations approximately double the volume of stablecoin transactions, while on Solana, we can observe up to a factor of 83 for USDC. These transactions are primarily driven by automated bots executing arbitrage strategies, sandwich attacks, and liquidation processes, which collectively contribute to a significant inflation of network activity.

Although Proof of Stake (PoS) networks exhibit considerably lower energy consumption per transaction compared to Proof of Work (PoW) systems, the aggregate effect of MEV-induced transaction volume is non-trivial. Elevated network utilization increases total energy demand, imposes additional burdens on data center infrastructure, and accelerates hardware depreciation, thereby contributing indirectly to electronic waste generation.

We can conclude that MEV-driven behavior erodes the environmental benefits traditionally associated with PoS-based blockchains, particularly in the context of stablecoin usage. Without effective mitigation strategies, these dynamics risk transforming efficiency gains into hidden, systemic ecological costs.

Therefore, as a prevision, we apply a ratio of 2 on Ethereum and a ratio of 20 on Solana for MEV-generated transactions to estimate the total environmental impact of our stablecoin over 3 years. Our assumption is based on the fact that we cannot estimate the growth of network transactions. We decide to consider 1.5 billion non-voting transactions monthly on Solana, which is the average over the last 6 months. On

Ethereum, a more stable network in transactions count, we consider the real number of transactions from May 2024 to May 2025, so 433,881,942tx. This represents the worst-case scenarios where the networks experience nearly zero growth for 3 years.

Solana	Projected count of yearly stablecoin transactions	Projected count of yearly stablecoin transactions, unadjusted	Share of projected stablecoin transactions on total transactions count	Energy intensity	Stablecoin energy consumption
Year 1	180,000	3,600,000	0.0002%	0.007 Wh/Tx	2.52 kWh
Year 2	540,000	10,800,000	0.0006%	0.007 Wh/Tx	7.56 kWh
Year 3	1,000,000	20,000,000	0.0011%	0.007 Wh/Tx	14.0 kWh

Ethereum	Projected count of yearly stablecoin transactions	Projected count of yearly stablecoin transactions, unadjusted	Share of projected stablecoin transactions on total transactions count	Energy intensity	Stablecoin energy consumption
Year 1	180,000	360,000	0.0008%	0.009 Wh/Tx	3.24 kWh
Year 2	540,000	1,080,000	0.0025%	0.009 Wh/Tx	9.72 kWh
Year 3	1,000,000	2,000,000	0.0046%	0.009 Wh/Tx	18.0 kWh