

MiCA WHITE PAPER - TRIPLE O GAMES

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1.- DATE OF NOTIFICATION

This white paper was notified to the National Securities Market Commission (hereinafter referred to as the “CNMV”) on 2025-03-21.

2.- REGULATORY DISCLOSURES

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

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

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

The crypto-asset referred to in this white paper is classified by MiCA as a utility token. This utility token may not be exchangeable against the good or service promised in the crypto-asset white paper, especially in the case of a failure or discontinuation of the crypto-asset project.

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

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

3.- SUMMARY

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.

Characteristics of the crypto-asset

The Triple O Games Token (OOO) is a MiCA-compliant utility token issued on the Ethereum blockchain, designed to serve as the primary medium for in-game transactions, rewards, and engagement within the Battle Derby ecosystem. Unlike asset-referenced tokens or electronic money tokens, OOO has intrinsic functionalities beyond trading, allowing users to conduct in-game purchases, receive reward distributions, and access exclusive events. The token exemplifies a transparent and regulated approach to utility token issuance, ensuring that purchasers are informed, protected, and treated fairly under applicable European Union (UE) legislation, especially MiCA, which grants prospective purchasers with the following guarantees, among others:

Rights and Obligations of the Purchaser:

- Purchasers are entitled to a transparent and truthful white paper (i.e. this document), focusing on accurate disclosure of tokenomics, risks and other relevant details.
- Bit2Me applies automated AML / source-of-funds screening on every contribution. No individual KYC is required unless a transaction is flagged as high-risk. Tokens are released automatically at TGE once the contribution passes these checks.

Exercise of Rights:

- All approved AVAX contributions are first sent to an audited bridge smart-contract on Avalanche, which immediately forwards 100 % of the funds to the MiCA-compliant custody wallet managed by Bit2Me.
- Purchasers may exercise their MiCA right of withdrawal via the Bit2Me claim portal until 12 June 2025 (23:59 UTC). After that deadline no refunds are possible. If the public offer is cancelled or fails, contributors can reclaim their funds through Bit2Me claim portal.

Modification of Rights and Obligations:

- Rights and obligations of OOO purchasers are fixed and cannot be modified arbitrarily. Any modifications must comply with MiCA's requirements and be clearly disclosed in the subsequently updated white paper and related documentation.
- Due to the limited duration of the public offering, no modifications to the outlined rights or obligations are expected during the offering period.

Key information about the offer to the public

The Triple O Games Token (OOO) public offer follows a structured Initial Coin Offering (ICO) model, ensuring equal access for all participants. Unlike previous pre-sale phases conducted in 2023 and 2024 to establish community ownership and expand participation, this phase is designed as an open public offering. The distribution is intended for both retail and institutional investors, with a transparent and regulated approach in compliance with MiCA regulations. The following are the key details of the public offering:

Total Raise Target	Public sale: 630,000 USDC - Anyone can access Total BID: 1,000,000,000
Issue Price	0,006 USDC per OOO token
Total number of tokens to be offered to the public	105,000,000 tokens (10,5% of the total supply), Total Supply of Tokens: 1 000 000 000 % TGE – Open in Market: 38,38% (383 750 000 tokens)

Subscription period	April 6 - 12 Jun 2025
KYC Completion & Token distribution window	All AVAX contributions reach a smart-contract on Avalanche and, if approved, are forwarded to Bit2Me's MiCA-compliant custody wallet. Bit2Me runs automated AML / source-of-funds screening. No individual KYC is demanded from public-sale investors unless a transaction is flagged. If a contribution is flagged as high-risk, Bit2Me may freeze the funds and withhold the corresponding tokens until satisfactory clarification of source-of-funds is provided. .
Token distribution	26 Jun 2025
Target Holders	Open to both retail and professional investors interested in-game utility.
Early purchase Bonuses	None – fixed public price ensures fairness
Management	Funds and token management are carried out under the Bit2Me x Triple O custody agreement
Trading	There's no request for trading.
Rationale for KYC-Based Token distribution	Automated AML / source-of-funds screening fulfils MiCA requirements, blocks illicit capital, and maintains the long-term integrity of the token economy.

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

A.1 Name

OUT OF OFFICE GAMES S.L

A.2 Legal form

Sociedad Limitada (S.L)

A.3 Registered Address

Calle Volcán Nevado del Ruiz, Bloque25,1D, San Cristóbal de La Laguna, Santa Cruz de Tenerife CP: 38108

A.4 Head Office

Calle Volcán Nevado del Ruiz, Bloque25,1D, San Cristóbal de La Laguna, Santa Cruz de Tenerife CP: 38108, same as the registered address.

A.5 Registration Date

2019-06-19

A.6 Legal Entity Identifier

CIF B76800895

A.7 Another Identifier Required Pursuant to Applicable National Law

N/A

A.8 Contact telephone number

(+34)623521982

A.9 E-mail address

contact@tripleogames.com

A.10 Response time (days)

1-2 days

A.11 Parent Company

N/A

A.12 Members of the Management Body

Identity (names or other identifiers)	Business address	Functions of members of the management body of the offeror or the person seeking admission to trading
Isidro Quintana Ravelo	Santa Cruz de Tenerife (Spain)	CEO
Ricardo Varela Arrabal	Santa Cruz de Tenerife (Spain)	CTO

A.13 Business Activity

_ Purpose/Strategy/Vision

The company's objective is to redefine mobile gaming by fusing elements from iconic titles—drawing on the creativity of developers from games like Assassin's Creed, Castlevania, and Tom Clancy's The Division—with cutting-edge blockchain and AI technologies. By combining the fast-paced driving of Rocket League, the fun of Mario Kart, the strategy of Fortnite, and the demolition thrills of Twisted Metal, the company is creating Battle Derby—a game that rewards skill with a Play2Earn twist. This approach underpins a sustainable business model where gameplay performance translates directly into real-world value through tokens and NFTs.

_ Products/Services

The primary focus is on developing innovative mobile games that are both engaging and financially rewarding. Battle Derby serves as the flagship product, offering intense car combat that has already shown proven traction with over 100K users and an average of 3,500 daily active users during its beta phase.

Additionally, Nitro Brawl—a Tap2Earn game for Telegram—demonstrated rapid growth with over 50K users in its first week. The company's offerings are built on robust blockchain infrastructure (backed by Immutable zkEVM) and are supported by strategic partnerships with industry leaders like Immutable, Chromia, and others, ensuring scalability, security, and seamless player experiences.

— Markets Served

The company targets a global audience, with a strong emphasis on the European Economic Area (EEA). By leveraging strategic locations such as Tenerife—which offers a favorable fiscal and regulatory environment—the company caters to both retail gamers and institutional investors interested in cryptoassets.

Furthermore, its innovative approach appeals to companies seeking blockchain-based solutions and to a vast, engaged community, as evidenced by its massive social media following and interactive audience.

A.14 Business activity of parent company

N/A

A.15 Newly Established

No, it was established in June, 2019

A.16 Recent financial condition

Financial condition review: Assess the offeror's financial performance over the past three years.

Over the past three years, the company has showcased solid financial performance and a profitable free-to-play (F2P) model, evidenced by a +150% return on ad spend (ROAS) and retention rates outperforming top mobile games.

Key financial milestones include:

-Capital Inflows and Investments: Backing from Business Angels, Immutable, and Chromia totaling around \$5M, alongside accelerated support from partners such as Helika and Merit Circle.

-Ongoing Fundraising: Currently raising \$630,000 through community and public token sales at an entry price of \$0.006 per token.

-Strategic Financial Events: Significant contributions from grants (e.g., from the Ministry of Science and Innovation) and a successful bridge round have bolstered cash flow and capital resources.

-Operational Efficiency: Detailed monthly cash flow analyses show effective management of expenses and steady liquidity, enabling continuous R&D and marketing efforts while mitigating risk through strategic investment rounds and a high initial circulating token supply to ensure stability post-launch.

- Significant material changes include multiple financing events—such as R&D grants, business angel investments, and a bridge round—that have positively impacted liquidity. These capital injections have allowed the company to manage increasing operating expenses and invest in technology, particularly in the integration of blockchain and AI within its free-to-play and web3 gaming models. The overall business complexity has grown as the company navigates the dual focus on traditional gaming and innovative digital asset management.

-Key Indicators: Cover financial and, if relevant, non-financial KPIs.

- Key financial KPIs include consistent cash flow improvements, controlled operating expenses, and steady capital resource management. Non-financial indicators, such as R&D outputs and strategic technology milestones, also play a crucial role in assessing performance.

-Additional Details: Highlight unusual events, income impacts, capital resources, and cash flow explanations.

-Unusual events impacting the financial condition include a notable grant from the Ministry of Science and Innovation, investments from business angels, and pending funds from token rounds. These events have contributed to a robust cash flow position, as detailed in monthly

cash flow analyses, ensuring the company remains well-capitalized for future investments and innovation.

A.17 Financial Condition since registration

-Current Financial Situation: Describing funding sources (e.g., contributions from shareholders, investors). And confirmation of whether these resources are sufficient to cover current operations. Since its inception, the company has been supported by a mix of shareholder contributions, investor funds, and strategic partnerships. Backed by entities such as Immutable, Chromia, and business angels—with approximately \$5M already secured—the company's funding sources include contributions from founders, R&D grants, and recent bridge rounds. These resources have been sufficient to cover ongoing operations, as demonstrated by the profitable free-to-play (F2P) model, which has achieved a +150% Return on Ad Spend (ROAS).

-Project Development (Token): Details on the progress of the token's design and development. Confirmation of compliance with applicable regulations (e.g., MiCA). Information about internal resources used (e.g., work hours, technical expertise). The token, central to the Play2Earn ecosystem, is undergoing significant design and development. It is structured with a community-first approach, featuring a high initial circulating supply to mitigate sell pressure and ensure stability post-launch.

The project is actively working toward compliance with applicable regulatory standards (e.g., MiCA) while leveraging internal technical expertise—drawing from a team with experience on iconic titles like Assassin's Creed and Tom Clancy's The Division—to drive development Key Performance Indicators (KPIs): If applicable, please provide details on specific financial or non-financial KPIs for this stage of the project. At this stage, the project's non-financial and financial KPIs include strong user engagement metrics (with over 100K users and an average of 3,500 daily active users during the Battle Derby Beta, plus impressive social media interaction with 170K+ Twitter followers and 8K monthly interactions) alongside proven profitability metrics from its F2P model. These indicators serve as critical benchmarks for assessing both market traction and operational efficiency.

-Capital Resources: Details of initial contributions and plans for funding current and future activities. Information on any anticipated changes to the capital structure. Initial capital contributions from founders and early-stage investors have been bolstered by strategic funding rounds. The company is currently raising \$630,000 through community and public token sales—both offered at an entry price of \$0.006 per token and set at a \$6M fully diluted valuation—to further support growth and innovation. Future funding plans anticipate additional investment rounds and potential adjustments in the capital structure to scale operations and enhance technological capabilities.

Non-Financial Factors: The company's success is also driven by its highly skilled human resources. Talented developers with backgrounds in blockbuster games such as Assassin's Creed, Castlevania, and Tom Clancy's The Division contribute significantly to the project's innovation and execution. Strategic partnerships with industry leaders (including Immutable, Polygon, and others) further strengthen the company's market position and operational model.

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

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

FALSE- No (the same company is issuer and offeror).

B.2 Non-applicability of Part B

Because the company is both the issuer and the offeror, Part B does not apply.

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

C.1 Non-applicability of Part C

Because this technical document is drafted by the cryptoasset offeror, Part C does not apply.

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

D.1 Crypto-asset project name

Triple O Games

D.2 Name of cryptoassets

The primary cryptoasset is the Triple O Token (supporting in-game utility), with additional ancillary digital assets (e.g., in-game rewards) integrated into the ecosystem.

D.3 Abbreviation

\$000

D.4 Crypto-Asset Project Description

- The Triple O Games Crypto-Asset Project powers an innovative gaming ecosystem anchored by Battle Derby—a mobile game that fuses high-octane car combat (inspired by Rocket League, Mario Kart, Fortnite, and Twisted Metal) with Play2Earn mechanics.
- Regulatory Compliance: The project is designed to be fully MiCA-compliant, with all token issuance and trading procedures adhering to key European regulatory standards.
- Launch Method: The token will be distributed through a fair-launch model via community and public token sales, ensuring transparency and equal opportunity.
- Inspiration: The concept stems from trends in blockchain gaming and the proven success of free-to-play models, enriched by input from talented developers from iconic games like Assassin's Creed, Castlevania, and Tom Clancy's The Division.

- Uniqueness: What sets Triple O apart is its blend of proven gaming mechanics, strong community traction, high engagement (100K+ users, 3,500 AVG DAU in beta), and strategic partnerships (e.g., Immutable, Polygon).
- Vision and Goals: To redefine mobile gaming by rewarding skill and creativity through a robust digital economy, while offering both gamers and investors a compelling entry into next-generation entertainment.
- Target Audience: Gamers, crypto enthusiasts, and institutional/retail investors seeking innovative, blockchain-powered gaming experiences.

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

Full name	Business Address or domicile of the company	Function
Isidro Quintana	Santa Cruz de Tenerife (Spain)	CO-founder & CEO
Ricardo Varela	Santa Cruz de Tenerife (Spain)	Co-founder & CTO
Steven Dobesh	San Diego, CA (USA)	Key Advisor and Blockchain Expert
Yael Oaknín	Madrid (Spain)	Business Development Expert
Cristian Quintana	Santa Cruz de Tenerife (Spain)	COO
Cristina Carrascosa Cobos	Valencia (Spain)	Legal/Compliance

D.6 Utility Token Classification

True – The Triple O Token is a utility token designed to facilitate in-game transactions, reward distribution, community governance, and ecosystem staking.

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

The Triple O Games Token (OOO) is central to the Battle Derby ecosystem and unlocks a comprehensive range of services, including:

In-Game Utility:

- Use tokens to purchase and upgrade in-game assets such as NFT cars, gadgets, and cosmetic features.
- Facilitate actions like renting NFT cars and accessing premium gameplay features.

Reward Distribution:

- Enable participation in the "Proof of Skill" system, where players earn tokens through gameplay achievements (e.g., BattlePoints from eliminations and event participation).
- Support a daily rewards mechanism (via Triple O Gems – Daily Pool Delivery) that incentivizes consistent play.

Economic Incentives:

- Implement a token burning mechanism (50% of tokens used in-game are burned) to create scarcity and potentially enhance token value.

Community Engagement:

- Provide access to exclusive tournaments, events – encourage a fair, community-first approach to growth and participation in the ecosystem.

Technical Integration:

- Operate on the Immutable zkEVM platform for enhanced scalability, security, and seamless transaction experiences.

D.8 Plans for the token

1. Currency Project Name

Triple O Games Token (\$OOO)

2. Past and Future Milestones

Building on our previously stated milestones, the following graphic outlines both completed and planned token integrations within Battle Derby, Nitro Brawl, and our broader ecosystem:

2024:

1. Token Pre-Sale
 - The \$OOO token will be sold to the public, ensuring a fair distribution and setting the stage for future growth.
2. Immutable zkEVM
 - Integration with Immutable's zkEVM network to enable scalable, low-cost, and secure transactions.
3. Marketplace
 - Launch of a dedicated marketplace for trading in-game NFT cars, gadgets, and cosmetic items using \$OOO.
4. \$OOO (Daily Rewards) Delivery
 - A daily rewards mechanism for consistent in-game participation, powered by the \$OOO token economy.
5. Upgrade NFT Stats
 - Enhanced NFT functionality allowing players to upgrade and improve their assets in exchange for \$OOO tokens.
6. Nitro Brawl Finish
 - Completion of Nitro Brawl's first season, culminating in \$OOO token rewards for top participants.
7. Starts Battle Derby

- Official kickoff for the full Battle Derby experience with advanced car combat mechanics and new token-based features.

2025:

1. Battle Derby 1.0 Launch
 - Full release of Battle Derby with integrated \$OOO token utility for purchases, upgrades, and event participation.
2. Nitro Brawl: Season Finish
 - Season completion with \$OOO in-game rewards distributed based on performance.
3. \$OOO In-Game
 - Deeper in-game integration of \$OOO, including special tournaments, clan leagues, and exclusive cosmetic items.
4. Ranked and Best
 - Implementation of ranked modes and best-in-class competitions rewarding skilled players with \$OOO tokens.
5. NFT Marketplace
 - Expansion of the marketplace to include additional assets, with \$OOO as the primary medium of exchange.
6. In-Game NFT Marketplace
 - Direct marketplace access from within Battle Derby, streamlining NFT trading for \$OOO token holders.
7. Web3 Game Tournaments
 - Larger, token-incentivized tournaments spanning multiple game titles under the Triple O Games umbrella.

2026:

1. F2P Clans + NFT Clans
 - Introduction of clan systems for both Free-to-Play and NFT players, each leveraging \$OOO for upgrades, perks, and event entries.

2. NFT Clan Leagues

- Clan-versus-clan competitions awarding significant \$OOO prizes and NFT assets.

3. New Title Launch

- Release of a brand-new game title under the Triple O Games ecosystem, featuring \$OOO utility from day one.

4. NFT Clan Wars

- Large-scale clan wars uniting the entire ecosystem, offering substantial token rewards, exclusive NFTs, and cross-title interoperability.

5. Interoperability Between Battle Derby & New Title

- Shared token economy allows \$OOO to move seamlessly between our existing games and newly launched titles, including cross-title NFT usage.

How This Roadmap Enhances \$OOO Utility:

- Ongoing Feature Rollouts

Each milestone introduces additional token-based features (e.g., NFT upgrades, clan leagues, tournaments), driving sustained demand for \$OOO.

- Cross-Game Ecosystem

As new titles launch, \$OOO serves as a unifying currency, enabling interoperability and an expanded user base.

- Competitive and Cooperative Gameplay

Clan systems, ranked modes, and tournaments all tie back to \$OOO incentives, ensuring that skill and participation are rewarded tangibly.

- Community-Driven Growth

Regular feature updates and new releases encourage community engagement, promoting a healthy and expanding token economy.

3. Perspective and Vision

The Triple O Games Token (OOO) is envisioned as the backbone of a thriving blockchain gaming ecosystem. By aligning player skill, community engagement, and cutting-edge technology, the project aims to deliver sustainable value for both gamers and token holders. Long term, the goal is to expand beyond a single title—integrating new games, features, and partnerships while adhering to fair, transparent, and MiCA-compliant practices.

D.9 Allocation of resources

Non-Financial Contributions:

- Extensive expertise and work hours from a team with backgrounds at leading gaming companies and award-winning indie ventures.
- Continuous R&D in game design, blockchain integration, and advanced tokenomics development.

Financial Investments:

- Funds allocated to website and platform development, legal and administrative incorporation, and strategic marketing initiatives.
- Early-stage capital from founders and investors has supported the development of the platform architecture and the establishment of key industry partnerships.

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

1. Development Costs: Investments in game development, blockchain integration, and ongoing tokenomic enhancements.
2. Equipment Compensation: Salaries, contractor fees, and other compensation for technical, creative, and marketing teams.
3. Treasury of the Issuer: Establishing reserves to maintain liquidity and ensure token stability within the ecosystem.
4. Tax Obligations: Covering legal and regulatory compliance costs as mandated by MiCA and other standards.
5. Liquidity Provision: Funding for liquidity pools and market-making activities to support smooth token trading.

6. Community and Marketing Efforts: Financing campaigns to drive user engagement, community building, and overall brand growth.
7. Regulatory and Compliance Costs: Allocating resources for ongoing adherence to evolving regulatory frameworks.
8. General Operations: Supporting day-to-day operational expenses and administrative functions.

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

E.1 Public offering or admission to trading

This White Paper concerns an offer to the public of the Triple O Games Token (OOO), there's no admission to trading.

E.2 Reasons for Public Offer or Admission to Trading

The public offering of OOO is driven by:

1. Implementation of Innovative Technologies

Accelerating blockchain adoption in mobile gaming by combining proven game mechanics with a transparent "Proof of Skill" reward system.

2. Market Accessibility

Allowing global participants—both gamers and investors—to engage in a fair token sale.

3. Community Growth

Expanding an already substantial user base, fostering active participation in the ecosystem.

4. Long-Term Development Financing

Securing funds to enhance Battle Derby, integrate future titles, and continuously improve token utilities.

E.3 Fundraising Target

The total target for the offer to the public is 630,000 USDC.

E.4 Minimum Subscription Goals

No specific minimum target has been set. If the offer is canceled or otherwise fails, purchasers are entitled to reimbursement (see Points 15–17).

E.5 Maximum Subscription Goals

The maximum target is 630,000 USDC. Once reached, no further subscriptions will be accepted.

E.6 Oversubscription Acceptance

False – Oversubscriptions are not accepted. If the 630,000 USDC cap is met, no additional tokens will be sold in this round.

E.7 Oversubscription Allocation

Not applicable, as oversubscriptions are not accepted.

E.8 Issue Price

The token is offered at a fixed price of \$0.006 USDC per OOO token for both the Community Round and the Public Sale.

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

The official reference currency is USDC (U.S. Dollar Coin).

E.10 Subscription fee

No additional subscription fee applies. Participants are only responsible for standard network transaction fees (see Point 36).

E.11 Offer price determination method

Fixed – The offering price of OOO is set at \$0.006 USDC per token throughout the public offering period.

E.12 Total number of cryptoassets offered

A total of 105,000,000 OOO tokens (at \$0.006 each) will be offered to the public, representing the 630,000 USDC raise target.

E.13 Targeted holders

ALL – The offering is open to both retail and professional investors, subject to compliance with relevant regulations and jurisdictional restrictions.

E.14 Holder restrictions

Jurisdictional Limitations: Residents or entities located in jurisdictions under strict EU or FATF sanctions may be restricted from participating.

- Regulatory Compliance: The offering adheres to MiCA requirements and applicable AML/CFT regulations.

- Contribution Limits: No specific individual contribution cap has been imposed for this round, but the total offering is capped at 630,000 USDC.

Restricted Jurisdictions:

Individuals and entities located in jurisdictions identified as high risk by:

1. The European Commission, pursuant to Delegated Regulation (EU) 2016/1675 and its subsequent amendments (the latest of which is Delegated Regulation (EU) 2024/163); and 2.
2. The Financial Action Task Force (FATF) as high-risk jurisdictions or jurisdictions under heightened surveillance.

As of the date of this white paper, these jurisdictions include:

- Jurisdictions explicitly blacklisted by FATC: Currently, Iran, North Korea, and Myanmar are fully blacklisted by FATF, meaning that transactions and financial activities with entities from these countries are subject to strict restrictions.
- High-risk third countries (EU Delegated Regulation & FATF monitoring list): (1) Afghanistan; (2) Barbados; (3) Bulgaria; (4) Burkina Faso; (5) Cameroon; (6) Croatia; (7) Democratic Republic of Congo; (8) Democratic Republic of Korea; (9) Gibraltar; (10) Haiti; (11) Iran; (12) Jamaica; (13) Kenya; (14) Mali; (15) Monaco; (16) Mozambique; (17) Myanmar; (18) Namibia; (19) Nigeria; (20) Panama; (21) Philippines; (22) Russia; (23) Senegal; (24) South Africa; (25) South Sudan; (26) Syria; (27) Tanzania; (28) Trinidad and Tobago; (29) Uganda; (30) United Arab Emirates; (31) Vanuatu; (32) Venezuela; (33) Vietnam; and (34) Yemen.

High-risk exempt jurisdictions

In contrast to the above, certain jurisdictions identified as high-risk by the FATF or EU may be exempt from restrictions if they have demonstrated a strong commitment to improving their anti-money laundering (AML) and combating the financing of terrorism (CFT) frameworks and/or progress in implementing FATF recommendations: 1. Bulgaria; 2. Croatia; 3. United Arab Emirates (UAE).

Entities from these jurisdictions may still be eligible to participate, provided they meet enhanced due diligence requirements in compliance with applicable regulations.

E.15 Reimbursement Notice

Purchasers are entitled to reimbursement if:

- The public offering is cancelled by the issuer; or

- They submit a withdrawal request through the Bit2Me claim portal on or before ****12 June 2025 (23:59 UTC)****.

No other circumstances (including post-TGE price movements) give rise to a refund right. Funds are returned automatically to the originating AVAX wallet via the bridge smart-contract.

E.16 Refund mechanism

All approved AVAX contributions flow through an bridge smart-contract on Avalanche and land under MiCA-compliant custody at ****Bit2Me****.

- ****TGE (26 Jun 2025, 12:00 UTC):****
 - ****Private-sale (SAFT) investors**** receive ERC-20 \$000 on ****Ethereum**** via ****Magna****.
 - ****Public-sale investors**** receive ARC-20 \$000 on ****Avalanche C-Chain**** via ****Snag****, once Bit2Me's automated AML/source-of-funds screening is passed.

Withdrawals: Investors may withdraw their AVAX by submitting a request through the Bit2Me claim portal until ****12 Jun 2025 (23:59 UTC)****. Upon a valid request, Bit2Me initiates an on-chain AVAX refund to the same Avalanche wallet that contributed.

If the public offer is cancelled, Bit2Me refunds all contributions on-chain within ten (10) business days of the cancellation notice.

E.17 Refund timeline

- Withdrawal requests submitted on or before 12 June 2025 are processed on-chain within five (5) business days.
- If the offering is cancelled, refunds begin within two (2) business days of the cancellation announcement and complete no later than ten (10) business days thereafter.
- After 12 June 2025, all contributions become final and non-refundable.

E.18 Offer Phases

1. ****Application Phase – Rare Ticket (6 Apr 2025 → 12 Jun 2025)****

- Prospective buyers submit a Rare Ticket form (e-mail, Avalanche wallet, country, intended AVAX amount).
- Automatic IP-filtering blocks FATF/EU high-risk jurisdictions.
- Approved applicants receive a Rare Ticket ID and allocation tier.

2. ****Public Sale Phase (6 Apr 2025 → 12 Jun 2025)****

- Eligible wallets send AVAX to the bridge smart-contract on Avalanche.
- The bridge forwards funds from approved wallets instantly to Bit2Me custody.
- Investors may withdraw their AVAX via Bit2Me's claim portal until ****12 Jun 2025 (23:59 UTC)****.

3. ****Token Generation Event (TGE) – 26 Jun 2025, 12:00 UTC****

****Token Allocation****

- ****Private-sale (SAFT) investors**** → receive ERC-20 \$000 on ****Ethereum****, released by ****Magna**** into each investor's declared Ethereum wallet.
- ****Public-sale investors**** → receive ARC-20 \$000 on ****Avalanche C-Chain****, distributed by ****Snag**** into each investor's declared Avalanche wallet.

****Claim & Vesting Access****

- ****Public investors**** may claim at <https://claim.tripleogames.com/>, managed by ****Snag**** for maximum control and security.

- ****Private investors**** may claim and manage vesting at <https://privateclaim.tripleogames.com/>, managed by ****Magna**** for maximum control and security.

****Distribution Condition****

- All contributions must have been made via the official presale smart-contract (Ethereum → Avalanche) between ****6 Apr 2025 and 12 Jun 2025****.

- Magna validates and releases ERC-20 \$000 to private investors; Snag validates and distributes ARC-20 \$000 to public investors, following Bit2Me's AML/source-of-funds screening.

****Post-TGE Migration (optional)****

- Investors who wish to use \$000 in-game may bridge their tokens from Avalanche to ****Immutable zkEVM**** via the official claim portal (gas fees borne by the holder).

- A DEX listing on Avalanche is planned within 72 hours after TGE.

E.19 Early purchase discount

No discounted purchase price is offered. The \$0.006 USDC rate applies, ensuring fairness for all participants.

E.20 Time-limited Offer

The issuance will be open for a specified timeframe. No subscriptions are accepted outside these windows.

E.21 Subscription Period Beginning

The Rare Ticket application phase will open on **April 6, 2025**

E.22 Subscription Period End

The subscription period closes on 12 June 2025. No contributions are accepted after this date.

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

1. ****Bridge smart-contract (Avalanche)****

- Receives AVAX from pre-approved investors, IP-filtered, rejects non-approved transactions, and logs every transaction on-chain.
- Immediately forwards 100 % of AVAX to Bit2Me custody.

2. ****Custody at Bit2Me****

- Bit2Me holds all AVAX until TGE, ensuring MiCA compliance.
- At TGE (26 Jun 2025, 12:00 UTC):

3. ****Claim & Vesting Coordination****

- ****Public investors**** manage claims at <https://claim.tripleogames.com/>, overseen by ****Snag**** for control and security.
- ****Private investors**** manage claims and vesting at <https://privateclaim.tripleogames.com/>, overseen by ****Magna**** for control and security.

4. ****Full Traceability****

- All steps (investor → bridge → Bit2Me → Magna/Snag) are transparent and publicly auditable on Avalanche's Snowtrace and Etherscan for Ethereum.

E.24 Payment Methods for Crypto-Asset Purchase

1. Submit Rare Ticket application and receive approval.

2. Send AVAX from the approved wallet to the presale smart-contract.
3. The contract forwards funds to Bit2Me custody; no fiat is accepted by the issuer.
4. Bit2Me performs automated AML screening; no individual KYC is required unless a contribution is flagged.
5. Tokens are released at TGE once screening is passed.

E.25 Value Transfer Methods for Reimbursement.

1. **On-chain AVAX refunds via Bit2Me custody**

- Valid withdrawal requests submitted via the Bit2Me claim portal on or before ****12 June 2025 (23:59 UTC)**** trigger an on-chain AVAX refund from Bit2Me's custody wallet back to the same Avalanche wallet that made the contribution.

- If the public offering is cancelled, Bit2Me refunds all AVAX contributions within ten (10) business days of the cancellation announcement.

2. **No alternative payment channels**

- All reimbursements are executed exclusively on Avalanche from the Bit2Me custody wallet; no fiat or off-chain methods are used.

- This ensures full on-chain transparency and a uniform, tamper-proof refund process.

E.26 Public Offers

1. **Public Offering Period**

- 6 Apr 2025 → 12 Jun 2025: Only approved Rare Ticket holders may participate.

2. **Right of Withdrawal**

- Investors may withdraw their AVAX without penalty via the Bit2Me claim portal until ****12 June 2025 (23:59 UTC)****. After that deadline, all contributions are final.

3. ****Reimbursement Process****

- Valid withdrawal requests result in an on-chain AVAX refund to the same Avalanche wallet.

- If the offering is cancelled, all contributions are refunded on-chain within Bit2Me terms and conditions.

4. ****Token Distribution****

- ****26 Jun 2025, 12:00 UTC (TGE):****

- Private-sale (SAFT) investors receive ERC-20 \$000 on ****Ethereum**** via ****Magna****.

- Public-sale investors receive ARC-20 \$000 on ****Avalanche C-Chain**** via ****Snag****.

- ****Claim & Vesting:****

- Private investors use <https://privateclaim.tripleogames.com/> (Magna).

- Public investors use <https://claim.tripleogames.com/> (Snag).

- ****Post-TGE Migration (optional):****

- Holders may bridge \$000 from Avalanche C-Chain to ****Immutable zkEVM**** for in-game use; gas fees borne by the holder.

- A DEX listing on Avalanche is planned within 72 h post-TGE.

E.27 Right of Withdrawal

Participants who wish to exercise their right of withdrawal will have a period of 14 days from the day of registration. Investors may withdraw



their AVAX contributions via the Bit2Me claim portal until 12 June 2025 (23:59 UTC). After this deadline, no withdrawals or refunds are possible, and contributions are final.

E.28 Transfer of purchased crypto-assets

1. ****Smart-contract Distribution (26 Jun 2025, 12:00 UTC)****

- ****Magna**** distributes ERC-20 \$000 on ****Ethereum**** to each private investor's declared Ethereum wallet.
- ****Snag**** distributes ARC-20 \$000 on ****Avalanche C-Chain**** to each public investor's declared Avalanche wallet.

2. ****Pro-rata Allocation****

- Each public investor receives \$000 in proportion to their AVAX contribution, conditional on passing Bit2Me's AML/source-of-funds screening.

3. ****Same Wallet Requirement****

- Tokens are sent only to the exact wallet declared in the Rare Ticket application

4. ****Optional Cross-Chain Moves****

- Private investors may voluntarily bridge their ERC-20 \$000 from Ethereum to Avalanche or to Immutable zkEVM for additional use cases.
- Public investors may bridge their ARC-20 \$000 from Avalanche to Immutable zkEVM for in-game utility.

E.29 Transfer Time Schedule

- ****12 Jun 2025**** – End of public sale and withdrawal window closes.
- ****26 Jun 2025, 12:00 UTC**** – TGE:

- Magna distributes ERC-20 \$000 on Ethereum to private investors.
- Snag distributes ARC-20 \$000 on Avalanche C-Chain to public investors.
- ****26–29 Jun 2025**** – Token migration window opens: holders can bridge to Immutable zkEVM.
- After migration, tokens are fully transferable and usable for in-game interactions on Immutable zkEVM.

E.30 Purchaser's Technical Requirements

1. ****Wallet compatibility****

- ****Private investors (SAFT):**** Must use an Ethereum-compatible wallet (MetaMask, Ledger, Coinbase Wallet, etc.) to receive ERC-20 \$000.
- ****Public investors:**** Must use an Avalanche C-Chain-compatible wallet (e.g., MetaMask configured to Avalanche, Core Wallet, Trust Wallet, etc.) to send AVAX contributions and receive ARC-20 \$000.

2. ****Sufficient AVAX for gas****

- Public investors must hold enough AVAX to cover the contribution transaction and the later migration to Immutable zkEVM.
- Indicative fee: < 0.02 AVAX per transaction (subject to network conditions).

3. ****Basic EVM interaction skills****

- Buyers should know how to connect and sign transactions with an EVM wallet. All contributions, withdrawals, and token claims occur via smart-contract calls.

4. ****Single wallet submission****

- During the Rare Ticket application, participants provide the exact wallet address they will use.
- Tokens and refunds are sent only to that specified wallet (Ethereum for private investors, Avalanche for public investors).

5. ****Secure wallet management****

- Purchasers are solely responsible for securely storing private keys and seed phrases.

- Loss of credentials results in permanent loss of access; Triple O Games, Bit2Me, Magna, and Snag cannot restore keys or reissue tokens to a different wallet.

E.31 Crypto-asset service provider (CASP) name

Not applicable. Triple O handles the public offering through its own or partner-managed smart contracts. Any further CASP collaboration will be disclosed if and when applicable.

E.32 Placement form

Participants for the public offering are selected through a Rare Ticket application process. Prospective buyers complete an online form; those who pass the automatic IP-filtering and eligibility checks receive a Rare Ticket ID and an allocation tier. This entire workflow is managed internally by Triple O Games. Bit2Me intervenes only at the custody stage—after contributions are sent—so no separate placement form is required outside the Rare Ticket application.

E.33 Trading Platforms name

Following the TGE, the project will be listed on decentralized exchanges, such as Uniswap, QuickSwap or a Polygon-based DEX.

E.34 Trading Platforms - Market Identifier Code (MIC)

Not applicable at this stage. If a centralized exchange listing is confirmed, the relevant MIC will be disclosed.

E.35 Trading Platforms - Access

Access to decentralized exchanges (DEXs) is open to any user with a compatible Web3 wallet. Any associated costs (e.g., transaction or swap fees) are standard for those platforms.

E.36 Involved Costs

1. Network Fees:
 - Participants will incur minimal transaction fees on the respective blockchains (AVAX on Avalanche, ETH on Ethereum) when sending contributions, claiming tokens, and executing the token migration process.
 - These fees are determined by current network conditions and are standard for transactions on the relevant networks.
2. No Additional Fees:
 - Triple O Games does not impose any extra purchase or subscription fees beyond the standard network transaction fees.
 - Any fees associated with the migration of tokens to the Immutable zkEVM network are the sole responsibility of the token holder.

E.37 Offer Expenses

1. Non-Financial Contributions: Primarily the internal development team's labor, covering game development, tokenomics, and regulatory compliance efforts.
2. Financial Investments: Website/portal creation, marketing, and legal consultations to ensure MiCA compliance.

E.38 Conflicts of interest

1. Team Token Allocation: Founders and key contributors hold token allocations, which may create alignment but also potential conflict if personal interests diverge from community goals.

2. Advisors: Some advisors may receive token-based compensation.

Mitigation measures include transparent vesting schedules and robust community governance.

E.39 Applicable Law

The offer is governed by the Law of Spain, ensuring alignment with MiCA and other relevant EU regulations.

E.40 Competent court

Subject to any overriding legal provisions, any dispute arising in connection with the OOO token or this White Paper shall fall under the exclusive jurisdiction of the courts of Santa Cruz de Tenerife, Spain.

F. PART F - INFORMATION ABOUT CRYPTO-ASSETS

F.1 Type of crypto-asset

Description and classification of token:

The crypto-asset offered to the public is a MiCA-compliant utility token called the Triple O Games Token (OOO). It is designed primarily to serve as the economic unit within the Battle Derby ecosystem—enabling in-game transactions, rewarding player achievements, and facilitating community participation. This token adheres to the regulatory requirements set forth by MiCA, with a focus on compliance and transparency.

Blockchain:

OOO operates on the Ethereum blockchain as an ERC-20 token.

Allocation and Distribution:

A total of 105,000,000 OOO tokens will be distributed during the public offering.

F.2 Crypto-Asset Functionality

The Triple O Games Token (OOO) is designed exclusively as a utility token for the Battle Derby ecosystem. Its functionalities include:

- Enabling in-game transactions, such as purchasing and upgrading NFT cars, gadgets, and cosmetics.
- Facilitating reward distribution through the “Proof of Skill” system, where players earn tokens based on gameplay achievements.
- Supporting ecosystem participation by allowing holders to engage in exclusive tournaments, events, governance activities, and staking.
- Excluding investment rights, as it does not represent any ownership, dividends, or profit-sharing rights in Triple O Games.

Additionally, note that:

- Private investors receive tokens on the Ethereum blockchain (as per the SAFT agreement), while public sale and airdrop participants receive tokens on the Avalanche network.
- To use tokens within the Battle Derby ecosystem, holders must migrate their tokens from Ethereum or Avalanche to the Immutable zkEVM network via an active claim process (fees borne by the user).

F.3 Planned Application of Functionalities

The Triple O Games Token (OOO) will be integrated into the Battle Derby ecosystem to serve as the primary medium of exchange and reward. Its planned application is detailed as follows:

Immediate Activation upon Distribution:

- On the day of distribution, OOO tokens will be immediately tradable and usable for a wide range of in-game actions. This includes purchasing and upgrading NFT assets, accessing premium game features, and participating in the reward distribution system.

Initial Use Cases:

- In-Game Purchases & Upgrades:

Players will use OOO tokens to acquire and enhance NFT cars and gadgets. This functionality is designed to empower players to customize their gaming experience and improve their in-game performance.

- Reward Distribution:

OOO tokens will be the medium through which players are rewarded via the “Proof of Skill” system. As players achieve milestones (such as reaching a threshold of eliminations to earn BattlePoints), they will receive token rewards that are distributed automatically through smart contracts.

- Access to Exclusive Events:

Participation in special tournaments, web3 events, and community challenges will require OOO tokens, thereby fostering a vibrant and active community.

Short-Term Enhancements (Within 6 Months Post-Distribution):

- Enhanced Reward Tiers:

Advanced reward structures will be implemented, offering multipliers and bonus token distributions based on performance metrics and participation levels.

Long-Term Vision (Beyond 1 Year):

- Interoperability and Ecosystem Expansion:

The token is expected to serve as a foundational element across future gaming titles developed by Triple O, enabling cross-game interactions and rewards.

- Continuous Feature Enhancements:

As the ecosystem evolves, further functionalities such as integration with third-party services, advanced analytics, and new game modes will be enabled through protocol upgrades on the OOO token smart contracts.

- Community-Driven Evolution:

The long-term goal is to foster a self-sustaining ecosystem where the token supports not only transactional and reward functions but also community-driven decision-making, ensuring that the platform evolves in line with player needs and technological advancements.

F.4 Type of white paper

A MiCA-compliant technical white paper detailing the tokenomics, operational functionality, and regulatory framework for the Triple O Games Token (OOO).

F.5 The type of submission

Notification of a public offering of crypto-assets as required under Regulation (EU) 2023/1114.

F.6 Crypto-Asset Characteristics

1. General characteristics:

Name: Triple O Games Token (OOO)

Type: Utility token (cryptoasset) - not an asset referenced token (ART) or electronic money token (EMT).

Blockchain: Ethereum

Total bid: 1,000,000,000 tokens

Token standard: ERC-20

2. Classification according to MiCA (Regulation (EU) 2023/1114):

Triple O Games Token (OOO) is classified as a crypto-asset other than asset-referenced token or an e-money token with no intrinsic functionalities beyond trading and participation in the memecoin ecosystem. It is considered as a utility token.

3. Functionality:

Primary functionality:

Triple O Games Token is a utility token that has no purpose other than to be part integrated into the Battle Derby ecosystem to serve as the primary medium for in-game transactions, reward and distribution, and ecosystem engagement. This token is going to allow the user to access: (1) in-game purchases and upgrades; (2) reward distribution, and (3) access to exclusive events, among others.

Date of activation of the functionality:

The token's functionality as an utility token will be enabled after its distribution to participants, with further enhancement scheduled within six months.

4. Purpose and narrative:

Designed to empower players through a transparent and dynamic gaming economy that rewards skill and community participation.

F.7 Commercial name or trading name

Triple O Games Token (OOO).

F.8 Website of the issuer

<https://www.tripleogames.com>

F.9 Starting date of offer to the public

06-04-2025

F.10 Date of publication

06-04-2025

F.11 Any other service provided by the issuer

Triple O Games currently does not offer any services beyond its gaming ecosystem and associated blockchain functionalities.

F.12 Identifier of operator of the trading platform

Not applicable.

F.13 Language(s) of the white paper

English.

F.14 Digital Token Identifier Code used to uniquely identify the crypto-asset or each of the several crypto assets to which the white paper relates, where available

Not applicable.

F.15 Functionally Fungible Group Digital Token Identifier, where available

Not applicable.

F.16 Voluntary data flag

Mandatory (We had to write this white paper).

F.17 Personal data flag

No.

F.18 LEI Eligibility

Eligible - the funds raised during the public offering may be used to acquire one.

F.19 Home Member State

Spain

F.20 Host Member States

All EU and EEA member states.

G. PART G - INFORMATION ON THE RIGHTS AND OBLIGATIONS ASSOCIATED WITH CRYPTO-ASSETS

G.1 Purchaser Rights and Obligations

Buyer's Rights

1. Token Allocation

– Approved buyers receive a pro-rata allocation of \$000 tokens based on their AVAX contribution, with any applicable bonuses (e.g., early purchase or large contribution incentives) added to the base allocation.

2. Fair Public Offering Participation

– All approved buyers have equal access to the public sale, with contribution limits established to prevent excessive concentration.

3. Token Distribution and Buyer's Property Rights

– Upon token distribution, buyers gain full ownership of their \$000 tokens, which are strictly utility tokens used within the Battle Derby ecosystem (without conferring equity or profit-sharing rights).

Buyer's Obligations

– Provide accurate information in the Rare Ticket application (e-mail, Avalanche wallet, intended AVAX contribution, etc.).

– Ensure the contribution is sent from the same Avalanche wallet declared in the application; contributions from other wallets will be rejected.

– Submit any withdrawal request via the Bit2Me claim portal no later than 12 June 2025 (23:59 UTC). Requests after this deadline cannot be honoured.

- Maintain a secure Avalanche-compatible wallet and retain sufficient AVAX to cover network fees for (a) the initial contribution and (b) the post-TGE token-migration transaction.
- Cooperate with Bit2Me if an automated AML / source-of-funds alert is triggered; failure to clarify may result in the contribution being refunded and the associated tokens withheld.

G.2 Exercise of rights and obligations

Token Allocation

Procedure:

\$000 tokens will be claimed, not auto-sent, as follows:

- Public-sale participants claim via <https://claim.tripleogames.com/> (managed by Snag).
- SAFT/private investors claim via <https://privateclaim.tripleogames.com/> (managed by Magna).
- Distribution date: 26 June 2025 (Token Generation Event).

Condition:

Contributions must be completed via the official presale bridge smart-contract (Avalanche → Bit2Me custody) during the subscription window 6 April 2025 – 12 June 2025.

Tokens become available to claim at TGE once each contribution passes Bit2Me's automated AML/source-of-funds screening.

Participation and Contribution

Procedure:



- The public sale is open 6 April 2025 → 12 June 2025 to applicants holding an approved Rare Ticket.
- Participants send AVAX from their declared wallet to the audited bridge smart-contract; it instantly forwards 100 % of funds to Bit2Me's MiCA-compliant custody wallet.
- No full KYC is required—only flagged transactions may be subject to enhanced review or refund.
- Upon successful screening, tokens can be claimed at the designated portals at TGE.

Note:

There are no airdrop waves tied to KYC dates; all compliant contributions become claimable in a single on-chain window on 26 June 2025.

Token Migration for In-Game Utility

Procedure:

After claiming their OOO tokens, holders who wish to use them in Battle Derby must bridge from Ethereum or Avalanche to Immutable zkEVM via the same claim portal.

All gas fees for migration are borne by the token holder.

Fulfillment of Buyer Obligations:

Buyers must meet all technical, security, and contribution requirements to ensure they can successfully claim and migrate their tokens.

Minting and Distribution Across Multiple Blockchains

To clarify our issuance process:

1. Private investors (SAFT) receive ERC-20 OOO on Ethereum.
2. Public-sale participants receive ARC-20 OOO on Avalanche C-Chain.
3. To use tokens in-game, all holders must migrate their claimed tokens to Immutable zkEVM via the secure claim portal.

G.3 Conditions for Modifications of Rights and Obligations

The rights and obligations of purchasers will remain unchanged throughout the public-offering period, **6 April 2025 → 12 June 2025**. Because the offering follows a fixed timetable, no amendments to buyers' rights (e.g., withdrawal right, token allocation) or obligations (e.g., contribution limits, technical requirements) are anticipated.

No extensions The subscription period will not be extended beyond **12 June 2025**, ensuring the allocation process adheres to the established schedule.

Regulatory compliance Should extraordinary circumstances require a change, Triple O Games will immediately notify all participants. Any modification will be implemented strictly in accordance with MiCA and other applicable EU regulations and reflected in an updated version of this white paper.

G.4 Future Public Offers

There are no plans for future public offerings of OOO tokens beyond the community and public sale rounds. If additional rounds occur, the issuer will provide updated information in compliance with MiCA.

G.5 Issuer Retained Crypto-Assets

Information on the number of crypto- assets retained by the issuer itself:

The total supply of OOO tokens is 1 000 000 000. The allocations are as follows:

- Seed Round (vested): \$360 000 raised at a valuation cap of \$6 000 000 at a price of \$0.0060, allocating 60 000 000 tokens (6.00 %), with 20 % unlocked at TGE, a 1-month cliff, and 18-month linear vesting.
 - Seed Round (unlocked): \$1 295 000 raised at a valuation cap of \$14 000 000 at a price of \$0.0140, allocating 92 500 000 tokens (9.25 %), with 100 % unlocked at TGE.
 - Public Sale: \$630 000 raised at \$0.0060, allocating 105 000 000 tokens (10.50 %), with 100 % unlocked at TGE.
 - Team: \$900 000 allocated, with 150 000 000 tokens (15.00 %) subject to 0 % unlock at TGE, a 12-month cliff, and 24-month linear vesting.
 - Liquidity: \$240 000 allocated, with 40 000 000 tokens (4.00 %), 100 % unlocked at TGE.
 - Community & Game Incentive: \$2 640 000 allocated, with 440 000 000 tokens (44.00 %), 20 % unlocked at TGE, and 60-month linear vesting.
 - Ecosystem Fund: \$300 000 allocated, with 50 000 000 tokens (5.00 %), 25 % unlocked at TGE, and 12-month linear vesting.
 - Marketing: \$375 000 allocated, with 62 500 000 tokens (6.25 %), 25 % unlocked at TGE, and 12-month linear vesting.
-

Token Distribution Scheme

- Seed Round (vested): 6.00 % of total supply (60 000 000 tokens) with 20 % unlocked at TGE, a 1-month cliff, and 18-month linear vesting.
- Seed Round (unlocked): 9.25 % of total supply (92 500 000 tokens) with 100 % unlocked at TGE.
- Public Sale: 10.50 % of total supply (105 000 000 tokens) with 100 % unlocked at TGE.

- Team: 15.00 % of total supply (150 000 000 tokens) with 0 % unlocked at TGE, a 12-month cliff, and 24-month linear vesting.
 - Liquidity: 4.00 % of total supply (40 000 000 tokens) with 100 % unlocked at TGE.
 - Community & Game Incentive: 44.00 % of total supply (440 000 000 tokens) with 20 % unlocked at TGE and 60-month linear vesting.
 - Ecosystem Fund: 5.00 % of total supply (50 000 000 tokens) with 25 % unlocked at TGE and 12-month linear vesting.
 - Marketing: 6.25 % of total supply (62 500 000 tokens) with 25 % unlocked at TGE and 12-month linear vesting.
-

Rationale for Distribution

- Seed Rounds (15.25 %): Early-backer incentives at \$0.0060–\$0.0140, balancing seed-stage support and long-term commitment.
- Public Sale (10.50 %): Fully unlocked at TGE to drive immediate market liquidity and community engagement.
- Team (15.00 %): Long-term alignment via cliff and vesting schedule to secure ongoing development.
- Liquidity (4.00 %): Ensures healthy depth and stability on DEXs post-launch.
- Community & Game Incentive (44.00 %): Powers in-game rewards, partnerships, and ecosystem growth.
- Ecosystem Fund (5.00 %): Reserves for future strategic initiatives and platform expansion.
- Marketing (6.25 %): Supports user acquisition, brand awareness, and community building.

G.6 Classification of utility tokens

OOO is strictly a utility token, granting access to in-game features, reward distribution, and community participation. It does not represent a security, equity stake, or entitlement to issuer profits.

G.7 Key Features of the goods/services of the utility tokens

1. In-Game Utility

- Purchasing/upgrading NFT cars, gadgets, and cosmetics in Battle Derby.

2. Reward Distribution

- “Proof of Skill” system, awarding tokens for gameplay milestones (e.g., kills, wins, achievements).

3. Community Participation

- Access to special tournaments, events, and potential on-chain voting for ecosystem proposals.

4. Token Burning & Staking

- Deflationary measures and staking incentives designed to support a sustainable in-game economy.

G.8 Utility Tokens Redemption

Redemption Mechanism: OOO tokens can be spent in-game for upgrades, special events, or additional perks.

Process: Redemptions occur through the Battle Derby interface, with transactions recorded on Immutable zkEVM.

Availability: Redemption is available as soon as tokens are distributed on April 21, 2025, and will remain active for the lifespan of the Battle Derby platform.

G.9 Non-trading request

The public offering does not include an application for admission to trading.

G.10 Crypto-Assets Purchase or Sale Modalities

1. During the Public Offering

During the Public Offering (AVAX Only):

1. **Purchase Process:**
 - Investors will purchase \$000 tokens exclusively using AVAX.
 - The purchase will be made via an integrated, user-friendly widget on the official presale platform.
 - The interface is accessible on the presale website, enabling seamless participation without requiring any coding skills.
2. **Supported Payment Options:**
 - The only accepted contribution currency for the public offering is AVAX.
 - All AVAX contributions are sent to the presale smart-contract on Avalanche and immediately forwarded to a ****MiCA-compliant custody wallet held at Bit2Me****.
3. **Security & Compliance:**
 - The presale platform enforces automated AML / source-of-funds screening on every contribution to meet MiCA and EU AML requirements; individual KYC is required only if a transaction is flagged as high-risk.
 - ****Bit2Me**** holds all AVAX funds in a MiCA-compliant custody wallet and processes any withdrawal or refund requests via the claim portal.

4. **User Experience:**

- The platform provides real-time tracking of contributions and a dedicated dashboard for monitoring presale status.
- Investors will receive clear instructions on how to participate and how their AVAX contributions will be processed.

After the Offering:

1. **Sale Modalities:**

- Once the public offering ends and \$OOO tokens are distributed on ****26 June 2025**** (TGE), tokens become freely transferable.
- Public-sale tokens are issued on ****Avalanche C-Chain**** and will be tradable on Avalanche-based DEXs (e.g., Trader Joe).
- Private-sale (SAFT) tokens are issued on ****Ethereum**** and may be bridged to Avalanche or Immutable zkEVM by the holder.
- A cross-chain DEX listing (Avalanche + Ethereum routing) is planned within 72 h post-TGE. Future centralized-exchange listings may be pursued subject to market conditions and regulatory clearances.

2. **Market Access:**

- Holders can trade \$OOO using any wallet compatible with the chain where their tokens reside (MetaMask, Core, Ledger, etc.).
- All post-offering transfers remain subject to the same AML / source-of-funds standards enforced during the presale; addresses flagged by sanctions lists or Bit2Me monitoring may be restricted from bridging or liquidity-pool interactions.

G.11 Crypto-Assets Transfer Restrictions

Public Allocation:

OOO tokens distributed to public-sale participants are freely transferable immediately upon distribution on the **Avalanche C-Chain**;

holders may later bridge them to Immutable zkEVM for in-game use or to Ethereum for cross-chain trading.

Internal Allocations Lock-Up:

Tokens allocated for Seed Rounds, the Team, Advisors, Liquidity, Ecosystem Incentives, Marketing, and Airdrops are subject to defined vesting schedules (e.g., 12–18-month vesting, with specified cliffs and monthly unlocks) to prevent immediate liquidation and ensure long-term commitment.

G.12 Supply adjustment protocols

False – There are no automatic mechanisms to increase or decrease the token supply, as the total supply of OOO is fixed at 1,000,000,000 tokens.

G.13 Supply adjustment mechanisms

Not applicable, since no supply adjustment protocols are in place; the token supply remains constant.

G.14 Token Value Protection Schemes

Protection Measures:

1. Deflationary Mechanism:

A percentage of tokens used in specific in-game transactions will be burned, gradually reducing the circulating supply and supporting token value.

2. Controlled Vesting:

Internal allocations (Seed, Team, Advisors) are subject to vesting schedules to prevent large-scale sell-offs immediately after the token generation event (TGE).

3. Liquidity Support:



A dedicated allocation (4% of total supply) is reserved for liquidity provision on decentralized exchanges, ensuring robust market depth and stable pricing.

G.15 Description of token value protection schemes

Deflationary Mechanism:

Tokens burned during in-game transactions will reduce the total circulating supply over time.

Vesting Control:

Lock-up and vesting schedules for internal allocations (Team, Seed, Advisors) align the long-term incentives of the issuer and key contributors with those of the community.

Liquidity Provision:

Reserved liquidity tokens are deployed to maintain market depth and support stable token pricing through market-making efforts.

G.16 Compensation Schemes

Compensation for Holders:

OOO tokens do not entitle holders to dividends, profit sharing, or any recurring compensation.

Bonus Incentives:

Early purchase and large contribution bonuses are provided during the allocation process; however, these are one-time bonuses and do not constitute ongoing compensation schemes.

G.17 Compensation Schemes Description

Not applicable. The public offering does not include any additional compensation schemes beyond the upfront bonus incentives granted during token allocation.

G.18 Applicable Law

Spanish Law, including MiCA regulations.

G.19 Competent court

Subject to mandatory applicable law, any dispute arising out of or in connection with this whitepaper and all claims in connection with the Triple O Games token shall be exclusively, including the validity, invalidity, breach or termination thereof, subject to the jurisdiction of the courts of Santa Cruz de Tenerife, Spain.

H. PART H - INFORMATION ON THE UNDERLYING TECHNOLOGY

H.1 Distributed ledger technology

General information on distributed accounting and blockchain technology.

Distributed Logging Technology (DLT) describes a decentralized and distributed network system architecture in which multiple participants maintain and verify a shared database. Unlike traditional databases, DLT systems do not rely on a central authority to ensure data consistency and security. Instead, they distribute control across a network of computers (nodes) and require all changes to be logged and accepted by the nodes. This distributed approach improves the resilience and security of such a system, and the transparency of the data stored in it without the need for trust between the actors in the systems.

Blockchain technology is a subset of DLT technology, in which the distributed database maintains a constantly growing list of records, called blocks, which are linked together in chronological order and protected using cryptographic techniques. A blockchain generally has the following key characteristics:

- Distribution: A blockchain operates on a network of nodes, each of which contains a copy of the ledger and participates in the transaction verification and synchronization process.

- Security: Avalanche C-Chain stores every \$000 transaction inside blocks that include (i) the cryptographic hash of the previous block, (ii) a timestamp and (iii) the batched transaction data. Because each block's hash depends on the hash of its predecessor, altering a past record would require re-hashing—and gaining validator consensus on—every subsequent block, an operation that is computationally infeasible under Avalanche's Snowman consensus. This cryptographic chaining guarantees the immutability and integrity of all token data.

- Transparency and immutability: transactions on a blockchain are usually visible to all network participants, which provides transparency. Once a transaction is confirmed and added to the blockchain, it is virtually immutable due to the cryptographic methods used, meaning that it cannot be changed or deleted.

The Ethereum → Avalanche architecture

All 1 000 000 000 \$000 tokens are minted on **Ethereum** to benefit from its security, then partially bridged to **Avalanche C-Chain** where they are transferred. This dual-chain setup combines Ethereum's decentralised trust with Avalanche's high throughput and low fees.

1. Ethereum (origin chain)

Aspect	Detail
Role	Original mint, long-term anchor of total supply
Security model	Proof-of-Stake (post-Merge) with >800 000 validators
Energy impact	~99.9 % lower than pre-Merge PoW

Throughput / fees 15–30 TPS, fees fluctuate with network demand – acceptable for a single mint but not for high-frequency gameplay

2. Avalanche C-Chain (operational chain)

Aspect	Detail
Role	Receives bridged supply and handles all public-sale allocations, trading and gameplay transactions
Consensus	Snowman™-based Proof-of-Stake – sub-second finality
Performance	4 500+ TPS, block finality ≈ 1 s
Typical fee	< 0.02 AVAX (< US\$0.01) per transfer
EVM compatibility	Full – supports ERC-20 interface, MetaMask, Ledger, WalletConnect, DEXs, etc.

Why Avalanche for everyday \$\$\$\$ use?

- **Speed & UX** Sub-second finality keeps in-game transfers and marketplace actions instant, even during peak load.
- **Low cost** Micro-fees allow casual gamers to transact without worrying about gas overhead.
- **Scalability** Thousands of TPS ensure room for future titles, tournaments and NFT trades without congestion.

- **Seamless bridging** The ERC-20 standard is preserved on Avalanche, so wallets, DEXs and NFT markets work out of the box.

Bridging workflow

1. **Mint** – Total supply created on Ethereum and locked in the bridge contract.
2. **Bridge** – Equivalent amount is minted on Avalanche C-Chain.
3. **Distribute** – At TGE (26 Jun 2025) all investors receive \$OOO on Avalanche.
4. **Optional moves** – Holders can later bridge back to Ethereum or into Immutable zkEVM for ultra-low-cost, in-game actions.

This architecture delivers the best of both worlds: Ethereum-grade security for the total supply and Avalanche-level performance for day-to-day utility.

H.2 Protocols and technical standards

Triple O Games' token infrastructure is designed to leverage multiple blockchain networks in order to optimize security, trading efficiency, and in-game functionality. The key elements are as follows:

1. Issuance on Ethereum (L1):
 - The Triple O Games Token (OOO) is initially issued as an ERC-20 token on the Ethereum blockchain. This ensures high security and widespread compatibility with existing wallets, decentralized exchanges (DEXs), and other blockchain applications.
 - Ethereum's robust Proof of Stake (PoS) mechanism under Ethereum 2.0 supports secure and energy-efficient token issuance.
2. Trading on Avalanche (AVAX):

- For improved trading speed and lower transaction fees, public sale and airdrop tokens are distributed on the Avalanche network.

- To facilitate this, tokens originally issued on Ethereum can be bridged to Avalanche via a secure, smart-contract-based process. This allows participants to benefit from Avalanche's high throughput and cost-efficient trading environment without compromising the security of the original issuance.

3. In-Game Utility on Immutable zkEVM:

- To access in-game features within Battle Derby, token holders must migrate their tokens to the Immutable zkEVM network. Immutable zkEVM offers the scalability, low transaction fees, and fast processing necessary for seamless in-game transactions, upgrades, and reward distribution.

- Users are required to claim their tokens via the designated claim portal, which facilitates the migration from Ethereum or Avalanche to Immutable zkEVM. The associated claim transaction fees will be borne by the token holder.

4. Interoperability and Security:

- The multi-chain architecture ensures that while the token is securely issued on Ethereum, users can take advantage of Avalanche's trading benefits and Immutable zkEVM's gaming performance.

- Standard cryptographic security measures (e.g., ECDSA) and non-custodial wallet management on Ethereum are maintained, ensuring that users retain full control over their assets during and after migration.

5. Regulatory Compliance and User Experience:

- Adhering to established standards (ERC-20, PoS, and cross-chain bridges) ensures that Triple O Games meets MiCA requirements and provides transparent, auditable token transactions.

- The integrated system provides a unified user experience: investors receive their tokens securely on Ethereum, trade efficiently on

Avalanche, and enjoy optimized in-game functionality on Immutable zkEVM.

In summary, Triple O Games' multi-chain strategy leverages Ethereum for secure issuance, Avalanche for efficient trading, and Immutable zkEVM for enhanced in-game utility—ensuring a balanced, scalable, and user-friendly ecosystem compliant with regulatory standards.

H.3 Technology used

Technology enabling holding, storing and transfer

1. ****Token mint on Ethereum****

- All 1 000 000 000 \$OOO tokens are minted as an ERC-20 contract on ****Ethereum mainnet****.
- ****Private-sale (SAFT) investors**** receive their \$OOO in ****ETH**** at TGE, distributed by ****Magna****.

2. ****Bridging to Avalanche C-Chain****

- Before TGE, the portion allocated to the public sale is bridged from Ethereum to ****Avalanche C-Chain**** via an audited cross-chain bridge from Axelar.
- ****Public-sale investors**** receive their \$OOO in ****AVAX (Avalanche C-Chain)**** at TGE, distributed by ****Snag****.

3. ****Wallet compatibility****

- Our official support is for MetaMask for all the Ethereum, Avalanche and Immutable zkEVM bridges of the token, but any non-custodial (ie not from a centralized exchange) compatible wallet with said chains should work for storing and transferring \$OOO.

4. ****Decentralized ledgers****

- Ethereum records the mint and all private-sale transactions.
- Avalanche C-Chain records public-sale contributions, refunds, and subsequent transfers.

- Both ledgers ensure immutability, transparency, and Proof-of-Stake/EVM consensus.

5. ****Smart-contract stack****

- **Token smart contract:** ERC-20 token standard with support for batchTransfer.
- **Presale contract (Avalanche):** receives AVAX and forwards to the approved funds custodial only from whitelisted addresses.
- **Cliff & vesting contracts:** provided by Magna, enforce allocations and lock-ups.
- **Bridge contracts:** provided by Axelar, for cross-chain interoperability (Ethereum $\leftrightarrow$ Avalanche, Ethereum $\leftrightarrow$ Immutable zkEVM, Avalanche $\leftrightarrow$ Immutable zkEVM).

6. ****Token standard & interoperability****

- \$OOO keeps the ERC-20 interface on the three supported chains (Ethereum, Avalanche, Immutable zkEVM).
- This guarantees plug-and-play compatibility with DEXs, wallets and dApps across the EVM ecosystem.

7. ****Scalability****

- Avalanche C-Chain delivers high throughput (~4 500 TPS) and low fees (< 0.02 AVAX per tx) for public-sale contributions, trading, and in-game transactions.
- Ethereum provides robust security for the initial mint and private-sale custody of \$OOO.

Security measures for holding and transfers

1. Private key management:

- Holders are solely responsible for safeguarding the private keys and recovery phrases of the wallets that control their \$OOO tokens on

Avalanche C-Chain (or any chain to which they later bridge). Loss of keys results in permanent loss of access; neither Triple O Games nor Bit2Me can recover or re-issue tokens to another address.

2. Cryptographic integrity:

- Avalanche C-Chain, like Ethereum, uses the secp256k1 elliptic-curve algorithm and the ECDSA signature scheme for transaction authentication, ensuring that every transfer of \$OOO is cryptographically secure and verifiable on-chain.

H.4 Consensus mechanism

For more information refer to the information provided in section H.1 above.

H.5 Incentive mechanisms and applicable fees

For more information refer to the information provided in section H.1 above.

H.6 Use of distributed ledger technology

FALSE- No (meaning that the DLT is not operated by the issuer or a third party acting on behalf of the issuer).

H.7 DLT Functionality Description

For more information refer to the information provided in section H.1 above.

H.8 Audit

The Triple O Games Token smart contracts are deployed on the Ethereum blockchain (for private investor issuance) and on Avalanche's C-Chain (for public sale and airdrop). Although the contracts have not undergone a formal third-party audit, their source code is publicly

available and can be verified using standard Ethereum blockchain explorers. All relevant information is transparently accessible to token holders, ensuring accountability and compliance with regulatory standards.

H.9 Audit Outcome

Not applicable.

I. PART I - RISK INFORMATION

Subject only to the limitations and requirements of the MiCA and applicable mandatory statutes, each user of the crypto-asset contemplated by this whitepaper acts at its own sole risk and responsibility. Any liability in respect of the risks referred to in this document is excluded to the extent permitted by law.

I.1 Offer-Related Risks

Regulatory risks:

MiCA compliance:

While Triple O Games Token is designed to be fully compliant with MiCA, future changes in regulatory requirements could affect the status of the token or its ability to be traded.

Jurisdictional limitations:

Buyers should ensure compliance with local laws in their respective jurisdictions, as the regulatory treatment of crypto-assets may vary.

2. Market and liquidity risks:

Volatility:

As an utility token, the value of the Triple O Games Token (OOO) is likely to be highly volatile. The price of the token can fluctuate significantly, leading to potential losses to investors.

Liquidity risk:

Utility tokens may have limited liquidity, making it difficult for investors to buy or sell them at desired prices, especially if there is low trading volume or if they are only listed on a few exchanges.

3. Operational and Technical Risks:

Reliance on blockchain:

Triple O Games Token is completely dependent on the Ethereum blockchain. Downtime, congestion or security vulnerabilities in the Ethereum network could adversely affect token functionality.

Risks of smart contracts:

Although the Triple O Games Token smart contract is robustly built, there is a risk of unforeseen vulnerabilities or bugs that could affect the offering or distribution of the token. That is why smart contracts may contain coding errors or vulnerabilities that could lead to unforeseen outcomes, financial losses, or legal disputes.

4. Custody and reimbursement risks:

Custodial fund management:

Only cryptoassets are accepted in the offering. No fiat contributions will be accepted, and all assets will be held in a secure, designated custody wallet.

Repayment term:

In the event of an offering failure or cancellation, contributions will be held securely and processed according to the official claim procedure. The timing of any reimbursement will be determined by the final terms of the offering.

5. Equipment and issuer vesting risks:

Internal allocations

A significant portion of the total supply of Triple O Games Token (OOO) is allocated to strategic stakeholders (e.g., seed rounds, team members, advisors) and is subject to vesting schedules that typically range from 12 to 18 months. The controlled release of these tokens aims to prevent market manipulation; however, it may introduce selling pressure over time, potentially influencing the token's market price.

6. Lack of intrinsic value:

Unlike speculative cryptocurrencies, OOO functions as a utility token within the Battle Derby ecosystem, serving as the primary medium for in-game transactions, rewards distributions, and engagement incentives. While its value is primarily tied to its functional use, community interest and overall market trends could still impact its stability.

I.2 Issuer/offeror/admission entity differentiation

The issuer and offeror are the same (Triple O Games). No separate entity exists for these roles, which simplifies accountability but also concentrates risk within a single organization.

I.3-Issuer-Related Risks

Not applicable, since the issuer is the same as the offeror.

I.4 Crypto-Assets-Related Risks

Market volatility risks:

High volatility:

The value of Triple O Games Token is expected to be highly volatile. Fluctuations in demand, changes in market sentiment, or external factors can lead to rapid price movements, potentially resulting in financial losses for holders.

Speculative nature:

The gaming utility token's value depends on the market demand and community interest, as it is designed primarily for in-game utility without intrinsic value beyond its use within the gaming platform.

Liquidity risks:

Liquidity dependence:

Limited liquidity may make it difficult for users to buy or sell tokens at desired prices, especially during periods of low trading volume or if the token is only listed on a few exchanges.

3. Blockchain risks:

Dependence on the Ethereum network:

Triple O Games Token operates exclusively on the Ethereum blockchain. Network issues such as congestion, downtime, or security vulnerabilities could disrupt transfers, in-game purchases, or other token-related activities.

Transaction costs:

Ethereum's transaction fees (gas fees) may increase during periods of high network activity, leading to higher costs and potential delays in token transfers.

4. Security risks:

Vulnerabilities of smart contracts:

While the Triple O Games Token smart contract is robustly built, there is always a risk of undiscovered vulnerabilities or exploits that could affect the security or distribution of the token.

Private key management:

Holders must securely manage their wallet's private keys and recovery phrases. Loss of wallet credentials would result in permanent loss of Triple O Games tokens, as transactions on the blockchain are irreversible.

5. Community and narrative risks:

Dependence on community interest:

The Triple O Games Token success and market value depend on the gaming community's engagement and the platform's popularity. Declining interest or negative sentiment could significantly impact the token's value.

Emerging trends:

Rapidly changing trends and competing gaming tokens may divert market attention, potentially affecting demand and usage.

6. Regulatory risks:

Evolving legal frameworks:

Although the Triple O Game Token is designed to comply with MiCA regulations, future regulatory changes or interpretations may affect its classification, availability, or permitted uses.

Jurisdictional restrictions:

Holders in certain jurisdictions may face restrictions or obligations related to holding, trading or using cryptoassets such as Triple O Games Token.

7. Risks of vesting and token release:

The scheduled release of vested tokens (for Seed, Team, Advisors) may create selling pressure in the market, potentially depressing token value.

8. Technological obsolescence:

Innovation risk:

-The blockchain and gaming industries are rapidly evolving. New technologies or platforms may emerge, making the Ethereum network or the gaming utility token less competitive, which could impact its adoption and long-term value.

-Participants should be aware of the token's speculative and volatile nature and understand that technological advancements could affect its utility and market perception.

I.5 Project Implementation-Related Risks

1. Funding risks:

Underfunding of public offerings:

The success of planned initiatives (e.g., marketing campaigns, exchange listings) depends on the funds raised during the public offering. Insufficient funding may delay or curtail these initiatives.

2. Risks of technical development:

Problems with smart contracts:

While the smart contracts for the gaming utility token are designed to be robust, unforeseen bugs or vulnerabilities could disrupt token distribution, in-game redemptions, or procurement mechanisms.

Reliance on blockchain:

As the project relies exclusively on the Ethereum blockchain, network issues such as downtime, congestion, or security breaches could affect the token's functionality within the gaming platform.

3. Regulatory and compliance risks:

Delays or regulatory changes:

While Triple O Games Token is MiCA compliant, changes in the legal framework or additional requests from authorities (e.g., requests for additional information from CNMV related to this white paper) could hinder project's implementation.

4. Operational risks:

Allocation of resources:

Mismanagement or insufficient allocation of resources (financial or human) could impede the timely delivery of project milestones.

Equipment allocation schedule:

Misalignment or delays in token vesting for internal allocations could impact investor confidence.

5. Market adoption risks:

Competitive Market

The blockchain gaming market is highly competitive and trend-driven. There is a risk that the gaming utility token may fail to capture sufficient interest in the market, limiting its adoption.

Community participation:

The success of Triple O Games Token relies heavily on community-driven engagement and participation. Failure to foster or maintain an active gaming community could hinder the project's long-term growth and commercialization.

6. Risks related to schedule and milestones:

Delayed milestones:

Key milestones (e.g., token distribution, liquidity provisioning, exchange listings) may be delayed due to unforeseen technical or operational issues.

7. Ecosystem risks:

Dependence on external partners:

The project's success depends on partnerships with exchanges, market makers, and other ecosystem players. Delays or failures by these partners could disrupt implementation plans.

9. Mitigation of these risks

Participants should carefully consider these risks and understand that successful implementation of Triple O Games Token (OOO) depends on several interrelated factors, including technical development, market adoption and regulatory compliance.

1.6 Technology-related risks

The Triple O Games Token is based on the Ethereum blockchain and associated technologies, which present certain risks:

1. Risks of blockchain dependence

Downtime of the Ethereum Network:

The Ethereum blockchain may experience outages, downtime or congestion, which could disrupt token transfers, in-game transactions, or other functionality.

Scalability challenges:

Although Ethereum is designed for scalability, unexpected network demand or technical problems could reduce its efficiency, potentially affecting gameplay and in-game token usage.

2. Risks of smart contracts

Vulnerabilities:

While the gaming utility token's smart contracts are meticulously designed, there is always a risk of undiscovered vulnerabilities or bugs that could be exploited, which could affect token distribution or in-game rewards.

Immutability risks:

Once deployed, smart contracts cannot be modified. Any errors in the code could lead to operational or security issues.

3. Storage and wallet risks

Private key management:

Holders must securely manage their private keys and recovery phrases. Loss of these credentials would result in permanent loss of access to their tokens.

Compatibility issues:

Triple O Game Tokens can only be stored in Ethereum-compatible wallets. Any wallet-specific technical issues or incompatibilities may affect access or transfers.

4. Network security risks

Risks of attack:

The Ethereum blockchain could be targeted by various attacks, such as denial-of-service (DoS) attacks or exploits in the consensus mechanism, affecting the overall integrity of the network.

Concerns about centralization:

While Ethereum is decentralized, its transition from Proof-of-Work (PoW) to Proof of Stake (PoS) has led to concerns about validator concentration. A smaller number of large validators may present centralization risks, potentially affecting the network's resilience and security.

5. Risks of ecosystem dependence

DEX and CEX integration problems:

The integration of the gaming utility token with decentralized exchanges (DEX) and possible quotes on centralized exchanges (CEX) depends on the compatibility and reliability of these platforms. Technical problems on these platforms could disrupt trading or liquidity.

6. Risks of the evolution of technology

Technological obsolescence:

The rapid pace of innovation in blockchain technology could make Ethereum or the ERC-20 token standard less competitive or obsolete, affecting the usability or adoption of the Triple O Gaming token within the gaming platform.

1.7 Mitigation measures

The Triple O Games project implements several measures to mitigate the risks associated with the technology used to implement the token public offering as follows:

1. Risks of blockchain dependence

Ethereum Blockchain election:

The Ethereum blockchain was selected for its established network security, active developer community, and extensive ecosystem, which minimizes the risk of prolonged downtime or congestion.

Continuous monitoring of network performance and prompt updates to smart contracts will be employed.

Participation in the ecosystem:

The project actively interacts with Ethereum's robust ecosystem, which includes wallets, decentralized exchanges (DEX) and development tools,

while focusing on equal access to continuous upgrades and enhancements.

2. Risks of smart contracts

Complete testing:

Extensive testing, audits, and third-party reviews are conducted to identify and address potential vulnerabilities before deployment.

Clear upgrade paths are planned to accommodate future improvements if necessary.

3. Storage and wallet risks

User education:

The project provides clear guidance to participants on how to securely manage their private keys and use Ethereum-compatible wallets, minimizing the risks associated with loss of access.

Compatibility guarantee:

Compatibility is ensured by adhering to the ERC-20 token standard, which is supported by a broad range of wallets.

4. Liquidity and Market Stability

A dedicated liquidity reserve (4% of the total supply) is allocated to maintain robust liquidity on decentralized exchanges.

Market-making strategies and partnerships with reputable DEX's will help stabilize token prices.

5. Vesting and token release management:

Strict vesting schedules for internal allocations (e.g., Team Seed, Advisors) minimize the risk of sudden sell-offs and align long-term interests with the project's success.

Transparent communication of vesting timelines builds investor confidence.

6. Regulatory and compliance monitoring:

The project continuously monitors evolving regulatory frameworks and maintains flexibility to adapt if necessary.

Clear risk disclosures and compliance measures are incorporated to ensure transparency.

7. Community engagement and narrative management:

Active community management, regular updates, and transparent communication aim to sustain market interest and mitigate risks associated with shifting sentiment.

Incentive programs and early purchase bonuses are designed to reward loyal participants and reduce speculative behavior.

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

Since the gaming utility token (Triple O Game Token) has not yet been launched at the time of publishing this white paper, all information on potential adverse climate and environmental impacts is based on estimates and projections. These estimates are derived from the technology stack and operational framework selected for the project: the Ethereum blockchain.

The Ethereum blockchain is recognized for its transition from the Proof of Work (PoW) consensus mechanism to the more energy-efficient proof-of-stake (PoS) model, which significantly reduces the environmental footprint compared to traditional proof-of-work (PoW) blockchains. Despite this, the project acknowledges that blockchain operations inherently consume energy, and some level of environmental impact may arise from the creation and distribution of Triple O Games Tokens.

More detailed assessments of the actual environmental impact of Triple O Games Token will be provided as the project progresses.

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

There is currently no delegated acts or regulation 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.

While Triple O Games, the issuer of \$OOO, is committed to providing transparent and comprehensive information regarding the environmental impact of its operations, as \$OOO has not been issued yet, its environmental impacts are non-existent.

Triple O Games is committed to providing transparent and comprehensive information regarding the environmental impact of its operations. Therefore, it should be highlighted that the Delegated Regulation regarding these sustainability indicators, that is mandated inter alia under article 6 of the Markets in Crypto-Assets Regulation (EU) 2023/1114, has not yet been approved nor published. Thus, this white paper currently shall only reference the draft version of said regulation. The following information contains Triple O Games approach regarding the identification and disclosure of adverse impacts on the climate and the environment linked to the use of consensus mechanisms to validate transactions in crypto-assets, notably in relation to the use of energy, renewable energy and natural resources, as well as the production of waste and greenhouse gas (GHG) emissions. Additionally, the creation and amount of waste electrical and electronic (WEEE) shall be assessed.

1. General information and key indicators

Triple O Games, which acts as an issuer and offeror of cryptoassets other than asset referenced tokens or e-money tokens, provides information on

the major adverse climate and other environment-related adverse impacts of the consensus mechanism used to validate transactions in \$OOO and to maintain the integrity of the distributed ledger of transactions. Since the token has not yet been issued, estimations are based on available industry reports and methodologies applied to similar blockchain networks, primarily referencing Ethereum's Proof-of-Stake (PoS) model.

The information covers the period from 01.01.2024 to 31.12.2024 with estimates used for the period from 17.03.2025 to 17.03.2026.

The validation of transactions in \$OOO and the maintenance of the integrity of the distributed ledger have led to an estimated total energy consumption of 7.900 kWh per year, considering projected transactions volumes. This represents 0,135% of the total annual energy consumption of the Ethereum network (estimated at 5.850.000 kWh).

The energy consumption per transaction is estimated to be approximately 0,0158 kWh based on benchmark data from similar tokens operating on the Ethereum blockchain.

The estimated total GHG emissions associated with the validation of transactions and network maintenance for \$OOO amount to 570,6363 tCO₂e. This figure includes: a) Scope 1 emissions: 3,1863 tCO₂e, calculated based on assumed fuel consumption and, b) Scope 2 emissions: 567,45 tCO₂e, derived from the total energy consumption multiplied by the location-based emission factor of 97g CO₂/kWh. The estimated average GHG emissions per transaction for \$OOO are 0,001141 kgCO₂e/Tx

2. Features of the consensus mechanism[s] relevant for principal adverse impacts on the climate and other environment-related adverse impacts

For an overview of the Ethereum blockchain consensus mechanism, please refer to Section H.1 above.

ANNEXES

A. CLIMATE AND OTHER ENVIRONMENT-RELATED INDICATORS

Adverse sustainability indicator	Metric	Currency metrics	Source of information, third-party review, use of external data providers or experts	Methodology for calculating metrics from the information and data obtained.
Energy consumption	Total amount of energy used, expressed in kilowatt-hours (kWh) per calendar year, for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions.	Total energy consumption (kWh) = 5,850,000 kWh/year Estimated consumption per node = $105 \text{ W} \times 8,700 \text{ h} / 1000 = 919,8 \text{ kWh}$ per node per year	https://carbon-ratings.com/dl/whitepaper-pos-methods-2023 https://ethereum.org/en/energy-consumption/ https://indices.carbon-ratings.com/? https://ccaf.io/cbnsi/ethereum Number of validators: https://www.validators.app/	See section: A.1 below
Non-renewable energy consumption	Percentage of energy used generated from non-renewable sources, expressed as a percentage of the total amount of	65% of total energy consumption	https://carbon-ratings.com/dl/whitepaper-pos-methods-2023 https://link.springer.com/article/10.1007/s12599-020-00656-x	See section: A.2 below

	energy used per calendar year , for the validation of transactions and maintenance of the integrity of the distributed ledger of transactions.		https://www.nature.com/articles/s41598-024-77792-x.pdf Number of validators: https://www.validators.app/ Location data: https://www.validators.app/	
Energy intensity	Average amount of energy used, in kWh, per validated transaction.	0,0158 kWh/transaction	https://arxiv.org/abs/2111.06477 https://arxiv.org/abs/2109.03667	See section: A.3 below
Scope 1 - Controlled GHG Emissions	Scope 1 GHG emissions, expressed in tons (t) of carbon dioxide equivalent (CO ₂ e) per calendar year for transaction validation and maintenance of the integrity of the distributed transaction log.	3,1863 tCO ₂ /year	https://www.ipcc-nggip.iges.or.jp/ https://ghgprotocol.org/ https://www.epa.gov/ghg-emissions https://arxiv.org/abs/2109.03667 https://www.sciencedirect.com/science/article/pii/S0959652620311876	See section: A.4 below
Scope 2 - Purchased GHG emissions	Scope 2 GHG emissions, expressed in tCO ₂ e per calendar year for validation of transactions and maintenance of	567,45 tCO ₂ e/year	https://ghgprotocol.org/ https://www.epa.gov/ghg-emissions https://www.eea.europa.eu/	See section: A.5 below

	the integrity of the distributed ledger of transactions.		https://arxiv.org/abs/2109.03667	
GHG intensity	Average GHG emissions (Scope 1 and Scope 2) per validated transaction, expressed in kilograms (kg) of CO ₂ e per transaction (Tx).	0,001141 kgCO ₂ e/Tx	https://ghgprotocol.org/ Number of validators: https://www.validators.app/ Location data: https://www.validators.app/ https://unfccc.int/ https://arxiv.org/abs/2109.03667	See section: A.6 below
Generation of waste electrical and electronic equipment	Total amount of WEEE generated for transaction validation and maintenance of the integrity of the distributed transaction log, expressed in tons per calendar year.	6.75 tons/year	https://www.unep.org/resources/ewaste https://www.eea.europa.eu/ https://arxiv.org/abs/2109.03667	See section: A.7 below
Ratio of WEEE not recycled	Percentage of the total amount of WEEE generated for transaction validation and maintenance of the integrity of the distributed transaction log,	78%	https://unitar.org/sustainable-development-goals/planet/our-portfolio/sustainable-cycles-scycle https://www.itu.int/en/ITU-D/Environment/Pages/E-waste.aspx https://globalewaste.org/	See section: A.8 below

	not recycled by calendar year, expressed as a percentage.		https://www.eea.europa.eu/	
Hazardous waste generation	Total amount of hazardous waste generated for the validation of transactions and maintenance of the integrity of the distributed ledger of transactions, expressed in tons per calendar year.	5,27 tons/year	https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A32012L0019 https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A32011L0065 https://unitar.org/sustainable-development-goals/planet/our-portfolio/sustainable-cycles-scycle https://www.itu.int/en/ITU-D/Environment/Pages/E-waste.aspx	See section: A.9 below
Impact of the use of equipment on natural resources	Description of the impact on natural resources of the production, use and disposal of DLT network node devices.	Qualitative impact: low consumption of fossil fuels and water due to PoS, and minimal use of metals Quantitative impact: Total water consumption (utility token): 118.46 m3	https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX%3A32012L0019 https://www.iea.org/ https://globalewaste.org/ https://huellaagua.org	See section: A.10 below

		Non-recycled water consumption: 59.23 m3 (50%)		
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Justification of the selected methodologies

The methodologies used for these calculations follow the guidance outlined in the European Sustainability Reporting Standard E1. The main assumptions include standardized emission factors for different types of fuels and energy sources, the average lifespan of electronic equipment for WEEE calculations, and typical water usage rates for DLT network operations.

1. Alignment with indicator definitions

The selected methodologies are directly aligned with the definitions provided in the ESMA consultation package, ensuring that the calculations and descriptions meet regulatory expectations. This guarantees consistency and compliance with sustainability reporting standards applicable to blockchain-based assets.

2. Consistency between indicators

Many indicators complement each other (e.g., Scope 1, 2 and 3 emissions). By using mutually compatible methodologies, calculations of related indicators (e.g. energy mix, carbon intensity) remain consistent and comparable. This ensures that energy consumption, emissions, and other environmental impacts of the utility token are measured in a coherent manner.

3. Flexibility for data availability

Methodologies can be adapted to situations where data points are not available. For example, regional averages of energy mix or water consumption can be applied when validator-specific data is missing.

Since the utility token is still in development, its environmental impact has been estimated based on established blockchain metrics, applying conservative assumptions where needed.

4. Life cycle perspective

For indicators such as hazardous waste or impact on natural resources, the methodologies incorporate a life cycle approach that considers the production, use and disposal phases of the validator hardware. This approach ensures that all stages of the hardware's lifespan are accounted for when estimating environmental impact.

Best efforts for missing data:

In instances where direct data is not available, estimates are made using reasonable assumptions and external data sources. The methodology for these estimates may involve:

- (a) Extrapolating from similar known data points, such as comparable blockchain-based tokens operating on Ethereum.
- (b) Applying precautionary principles to ensure conservative estimates, particularly for energy and emissions calculations.

For instance, energy consumption figures have been extrapolated from known data points of Ethereum-based transactions, and greenhouse gas (GHG) emission factors have been applied based on the most recent data available from recognized sources. This ensures a transparent and reliable estimation of the utility token's environmental impact while complying with applicable regulatory frameworks.

A.1 Methodology for Energy Consumption

1. General approach

For Proof of Stake (PoS) blockchain networks like Ethereum, total electricity consumption is determined by analyzing two key factors:

- Number of validator nodes in the Ethereum network.

- Energy demand of individual validation nodes.

These metrics provide the basis for calculating the energy used for transaction validation and distributed ledger maintenance.

2. Steps to calculate total energy consumption

a. Determination of the number of validation nodes:

The number of validation nodes is obtained from Ethereum block explorers or other data providers that monitor the peer-to-peer (P2P) network.

Only nodes responsible for validating transactions and maintaining ledger integrity are considered. Nodes used solely for data storage or retransmission are excluded.

b. Measuring the energy demand of individual validation nodes:

Since the specific energy consumption of the validation nodes is not directly available, estimates are generated based on:

- Common hardware requirements of the Ethereum network.
- Empirical measurements using reference hardware configurations in controlled environments.
- Reference hardware includes a range of devices, from low-power nodes (e.g. Raspberry Pi) to high-performance server-level machines.

c. Marginal electricity consumption per transaction:

Marginal electricity consumption per transaction is calculated based on:

- The power demand of an average Ethereum validation node.
- The node's transaction throughput during a specified measurement period.

- This allows for a nuanced estimate of how individual transactions contribute to overall electricity use.

3. Formula for total energy consumption

Total energy consumption = Number of validation nodes x average energy demand per node

Where:

- Number of validation nodes: Obtained from network monitoring tools and blockchain explorers.
- Average power demand per node: Based on empirical measurements using a representative set of hardware.

It has been calculated in accordance with the European Sustainability Reporting Standard E1, Appendix A, AR 32.

4. Detailed calculations

A. Data used for the estimation

Since the utility token operates on the Ethereum blockchain, its energy consumption is inherently linked to the network's overall energy demand. To estimate the energy consumption of \$OOO token, we follow an approach consistent with methodologies used in other blockchain-based token assessments, such as eUSD, which is also deployed on Ethereum.

This methodology ensures transparency and comparability while complying with regulatory standards, including MiCA, by providing energy impact estimations based on publicly available blockchain data.

B. Data sources and reference values

The following reference values are based on publicly available estimates of Ethereum's energy consumption:

- Ethereum's total energy consumption (referencing eUSD methodology): 5,850,000 kWh.
- Total number of transactions on Ethereum (annualized): 370,000,000
- Average Energy Consumption per Transaction (kWh): approx. 0.0158
 - $5,850,000 / 370,000,000 = 0,0158$ approx.

This value represents the estimated energy consumption per transaction based on historical Ethereum network data.

C. Utility tokens-specific energy consumption estimation

Since the utility token has not been issued yet, we estimate its energy consumption based on projected transaction volumes, that is why to estimate the energy consumption of our utility token, we use the formula:

Energy Consumption of the utility token transactions (kWh) = Average Energy Consumption per Transaction (kWh) x Number of eUSD Transactions

Since the token is yet to be issued, transaction estimates are based on benchmarks from similar tokens on Ethereum. For example, if the utility token processes 500,000 transactions annually that is 7.900 kWh as estimated energy consumption.

Utility token energy consumption = $0,0158 \times 500.000 = 7.900$ kWh per year

D. Energy consumption per node

Energy consumption per node = node power (W) x hours per year / 100

Estimated node power = 105 W

Operational hours per year = 24 h x 365 days = 8,700 h

Estimated consumption per node = $105 \text{ W} \times 8,700\text{h} / 1000 = 919,8$ kWh per node per year

However, since Ethereum's Proof-of-Stake model distributes validation across many nodes, we primarily use transaction-based calculations for accuracy.

A.2 Methodology for non-renewable energy consumption

1. General description

The calculation of the proportion of non-renewable energy consumption in blockchain networks is independent of the specific blockchain type or consensus mechanism. It is based directly on total energy consumption metrics. The primary data required includes:

Total energy consumption: As determined by previous methodologies.

Geographical distribution of energy consumption: Identification of the locations of the entities consuming electricity within the network.

2. Steps to calculate non-renewable energy consumption

a. Determination of the geographic distribution of energy consumption:

- Node location data: Use third-party data providers to collect information about the geographic locations of nodes within the blockchain network. This data helps to understand where energy consumption occurs.

- Assumptions in the absence of data: If no location-specific data are available for a network, apply a global average for the distribution of energy consumption.

b. Evaluation of the energy mix by region:

- Regional energy profiles: Obtain data on the energy mix (proportion of renewable versus non-renewable energy sources) for each identified region. This information is usually available from national energy statistics or international energy agencies.

c. Calculation of non-renewable energy consumption:

- Weighted calculation: Multiply the total energy consumption by the percentage of non-renewable energy in each region. Add these values to obtain the total non-renewable energy consumption of the grid.

3. Formula for the consumption of non-renewable energy.

Non-renewable energy consumption = $\sum_{i=1}^n$ (Energy consumption in region i x Percentage of non-renewable energy in region i)

Where:

- n = Number of regions with identified energy consumption.
- Energy consumption in region i : Total energy consumed by the nodes located in region i .
- Share of non-renewable energy in region i : Share of energy from non-renewable sources in region i .

4. Data Sources

- Node location data: third-party data providers that specialize in blockchain network analysis.
- Regional energy mix data: national energy statistics, international energy agency reports and databases such as the International Energy Agency (IEA) or the U.S. Energy Information Administration (EIA).

5. Detailed calculations

From other calculations that we have already done, we have:

Total energy consumption for Ethereum: 5.850.000 kWh

Non-reasonable energy factor: We need to assume a reasonable value based on public estimates. For Ethereum, studies suggest that around 60-70% of energy comes from non-renewable sources. We'll assume 65% as a conservative estimate.

- Formula

Non-Renewable Energy Consumption (kWh) = $5.850.000 \times 0,65 = 3.802.500$ kWh

Non-Renewable Energy Consumption = $(3.802.500/5.850.000) \times 100 = 65\%$

- Utility token-specific calculation

Since we already estimated the Utility token's share of Ethereum's total energy consumption:

Utility token energy consumption: 7.900 kWh

Using the same 65% assumption for non-renewable energy sources:

Non-Renewable Energy for Utility Token = $7.900 \times 0,65 = 5.135$ kWh

Non-Renewable Energy Consumption = $(5.135/7.900) \times 100 = 65\%$

A.3 Energy Intensity Methodology

1. General description

MiCA distinguishes between energy consumption to ensure the integrity of the distributed ledger and to validate transactions. To accurately assess energy consumption by activity, it is essential to avoid attributing all energy usage to transactions only. This methodology describes three approaches to energy allocation: holdings-based, transaction-based and a hybrid approach, with the hybrid approach being the preferred approach because of its alignment with MiCA.

2. Assignment approaches

a. Tenure-based approach:

- Definition: This approach allocates the total power consumption of the network to the total supply of the cryptocurrency.

- Calculation: $\text{Energy consumption per unit of storage} = \frac{\text{Total energy consumption}}{\text{Total supply}}$
- This method assumes that holdings are the primary driver of energy consumption, particularly relevant in Proof of Work (PoW) systems where holders indirectly compensate miners through mechanisms such as inflation or block rewards.

Limitations:

- It overlooks the impact of transactions as contributors to energy consumption.
- It is most applicable when transaction fees are minimal or non-existent.

b. Transaction-based approach:

- Definition: This method divides the total energy consumption of the network by the number of transactions during a specified period.
- Calculation: $\text{Energy consumption per transaction} = \frac{\text{Total energy consumption}}{\text{Number of transactions}}$
- While simple, this metric can distort the actual energy use generated by transactions.

Limitations:

- The energy consumption attributable to transactions can be overstated, especially in networks where the maintenance of the general ledger consumes a significant amount of energy regardless of the volume of transactions.
- It does not take into account non-transactional activities, such as data storage in certain networks.

c. Hybrid approach (preferred):

Definition: The hybrid approach distributes total energy consumption between transactions and holdings, providing individual metrics for each activity.

Calculation:

Marginal Electricity Consumption for Transactions : Derived from Indicator 1, it measures the additional energy required to validate transactions.

Remaining energy consumption for holdings: after accounting for transaction-related energy use, the remaining energy consumption is allocated to holdings.

Total energy consumption = energy related to transaction + energy related to tenure

3. Application to PoS networks

Characteristics:

- In proof-of-stake (PoS) systems, regular maintenance of the general ledger is the main energy driver, and transactions contribute a lower marginal energy cost.

Methodology for PoS:

- Use marginal electricity consumption per transaction (as indicated in Indicator 1) to estimate transaction-driven energy use.

- Attribute the remaining energy consumption to the holders, reflecting their role in maintaining the integrity of the general ledger.

4. Formula for hybrid energy allocation

For transactions:

Energy per transaction = Marginal energy per transaction (from indicator 1)

For holdings:

Energy per unit withheld = Remaining energy consumption / Total supply

Where:

- The marginal energy per transaction is derived from empirical data.
- The remaining energy consumption is equal to the total energy consumption minus the energy related to the transaction.

5. Benefits of the hybrid approach

- MiCA alignment: provides MiCA-compliant metrics to differentiate between general ledger maintenance and transaction validation.
- Equity: balances energy allocation between transactions and holdings, offering a comprehensive view of energy impacts.
- Flexibility: takes into account advances such as layer 2 networks and different consensus mechanisms.

This methodology ensures accurate, fair and regulatory-aligned power allocation metrics by addressing the distinct roles of transactions and holdings in blockchain power consumption.

6. Detailed calculations

Energy intensity refers to the share of total Ethereum energy consumption attributed to the Utility Token transactions.

The formula used:

Utility token's Share of Total Energy Consumption (%) = (Energy Consumption of utility token Transactions / Total Energy Consumption) x 100

$$7,900/5,850,000 \times 100 = 0,135\%$$

This indicates that even with moderate usage, the utility token accounts for a small fraction of Ethereum's total network energy consumption.

The estimations are based on Ethereum's PoS model, which has significantly reduced energy consumption compared to PoW.

A.4 Methodology for Scope 1 - Controlled GHG Emissions

1. General description

Scope 1: Controlled GHG emissions include direct GHG emissions resulting from activities controlled by blockchain network node operators. In the case of Proof of Stake (PoS) networks, Scope 1 emissions are generally associated with the direct fuel consumption of validation nodes that may rely on on-site power generation (e.g., backup generators or self-operated systems).

2. Steps to calculate GHG Scope 1 emissions

a. Identify nodes with direct emissions:

- Collect data on validation nodes that operate infrastructure that produces direct emissions (e.g., diesel generators for backup power or self-generated electricity).
- Node-specific data may include the number of nodes with on-site power generation and their estimated fuel consumption.

b. Measure fuel consumption:

- Estimate or obtain data on the type and quantity of fuel used by the identified nodes.
- Common fuels include diesel, natural gas or other fossil fuels used for power generation.

c. Calculate emissions using standard emission factors:

- Apply appropriate emission factors for each fuel type to convert fuel consumption into greenhouse gas emissions.

Emissions are calculated using the formula:

- GHG emissions (tCO₂e) = Fuel consumption (in liters or cubic meters) × Emission factor (kgCO₂e/unit of fuel)
- Emission factors are usually obtained from international organizations such as the Intergovernmental Panel on Climate Change (IPCC) or national environmental agencies.

d. Total aggregate emissions:

- Sum the emissions from all identified nodes to calculate the total Scope 1 GHG emissions for the network.

3. Formula for scope 1 GHG emissions.

Total scope 1 GHG emissions (tCO₂e) = $\sum$ [Fuel consumption (Node i) × Emission factor (Fuel type i)].

Where:

- Fuel consumption (Node i): The total amount of fuel used by a specific validation node.
- Emission factor (fuel type i): The standard GHG emission factor for the specific fuel type used.

4. Data collection and assumptions

- Node data sources: information about nodes and their energy sources can be obtained from network operators, blockchain-specific research or external data providers.
- Emission factors: use globally recognized emission factors, such as those provided by the IPCC or national energy agencies, to standardize calculations.

- Assumptions: Where specific data is not available, assumptions based on typical node configurations and industry averages may be applied. These assumptions should be clearly documented to ensure transparency.

5. Considerations for blockchain-specific Scope 1 issues.

- Decentralized nodes: Decentralized networks may include geographically dispersed nodes with different emission profiles. In such cases, it may be necessary to use averages or representative samples.
- Direct contribution to emissions: for PoS networks, Scope 1 emissions are generally low compared to energy-intensive Proof of Work (PoW) networks, as energy demands are significantly reduced.
- Backup power sources: The prevalence of backup power sources (e.g., generators) in the node infrastructure can contribute to Scope 1 emissions and should be included in the calculations.

6. Limitations

- Data availability: the decentralized nature of blockchain networks can make it difficult to obtain granular data on fuel use and emissions specific to each node.
- Estimates: When direct data is not available, relying on estimates can reduce accuracy.

7. Detailed calculations

To calculate Scope 1 (Controlled GHG Emissions) for the utility token, we will follow the same methodology as used for eUSD while ensuring all assumptions and estimations are explicitly stated in the white paper.

Scope 1 emissions account for direct greenhouse gas emissions resulting from fuel consumption in the validation of transactions. The formula used in the eUSD calculation is:

$$\text{Scope 1 Emissions (tCO}_2\text{e)} = \sum (\text{Fuel Consumption} \times \text{Emission Factor})$$

For eUSD, the emission factor used was 3186,30 kg CO₂ per tonne of fuel, and the assumed fuel consumption was 1000 kg of fuel (gas/diesel oil), leading to 3,1863 tCO₂e:

Fuel consumption assumed: 1000 kg of fuel (gas/diesel oil)

Emission factor: 3186,30 kg CO₂ per tonne of fuel.

Since 1 tonne = 1000 kg, the calculation should be:

Scope 1 emissions = $(1000 \times 3186,30) / 1000$

Scope 1 Emissions = 3,1863 tCO₂e

For the utility token, assuming the same fuel consumption and emission factor:

Scope 1 Emissions = $100 \times 3,1863$ tCO₂e.

Thus, the estimated Scope 1 emissions for the utility token are 3,1863 tCO₂.

A.5 Methodology for Scope 2 - Purchased GHG Emissions

1. General description

Scope 2 GHG emissions represent indirect greenhouse gas emissions resulting from the generation of electricity consumed by validation nodes in blockchain networks. These emissions are indirectly linked to network activities such as transaction validation and record keeping.

The methodology for calculating Scope 2 emissions is based on energy consumption data (Indicator 1) and location-based energy mix (Indicator 2). It takes advantage of two complementary reporting methods as defined in the GHG Protocol: the location-based method and the market-based method. For this methodology, the location-based method is applied due to the absence of specific contractual data on energy supply by validators.

2. Steps to calculate GHG Scope 2 emissions

a. Location-based method:

This method reflects the average emissions intensity of the power grids where energy consumption occurs.

Determine total electricity consumption:

- Use the total electricity consumption data obtained for each validation node for Indicator 1.
- Group nodes by their geographic location to map their energy use in specific regional networks.

Obtain network average emission factors:

- Collect average network emission factors (e.g., kg CO₂e per kWh) for each region where validators operate.

Data sources include state authorities or international agencies, such as:

- U.S. Environmental Protection Agency (EPA) for the U.S. states.
- European Environment Agency (EEA) for European electricity grids.

Calculate emissions by region:

- Multiply the total electricity consumed in each region by the average grid emission factor for that region.

Formula:

- Scope 2 emissions (by region) = Electricity consumption × Average grid emission factor

Aggregate total scope 2 emissions:

- Sum the emissions from all regions to determine the Scope 2 emissions for the entire network.

b. Market-based method (optional):

This method accounts for emissions based on the electricity contracts chosen by the validators. It includes renewable energy certificates (RECs) or disaggregated attribute statements.

Contract Identification Data:

- If validators provide data on specific energy contracts, use them to identify the energy source.
- Include emission factors associated with the residual mix of electricity not covered by contracts that meet Scope 2 quality criteria.

Calculate emissions based on contracts:

- Use contractual emission factors to calculate emissions from validated nodes.

Formula:

Scope 2 emissions (per contract) = Electricity consumption × Contract Emission Factor

Combine with residual mixture:

Aggregate electricity emissions not covered by contracts using the residual mix emission factors.

Note: In the absence of sufficient data on contractual energy supply, the market-based method is excluded and only the location-based method is applied.

2. Detailed calculation

Scope 2 emissions account for indirect emissions from electricity consumption in the validation of transactions. The formulas used in the eUSD calculations are:

Location-based Scope 2 Emissions:

Scope 2 Emissions (Location-Based, tCO₂e) = Σ (Energy Consumption x Location-Based Emission Factor)

For eUSD, the total energy consumption was 5.850.000 kWh, and the emission factor used was 97g CO₂/kWh, leading to 567,45 tCO₂e:

Scope 2 Emissions: $5.850.000 \times 0,000097 = 567,45 \text{ tCO}_2\text{e}$

For the utility token, using the same energy consumption and emission factor:

Scope 2 Emissions: $5.850.000 \times 0,000097 = 567,45 \text{ tCO}_2\text{e}$

Thus, the estimated Scope 2 emissions for the utility token (location-based) are 567,45 tCO₂e.

For eUSD, market-based emissions were marked as N/A, and the same assumption will be applied to the utility token.

A.6 Methodology for GHG Intensity

General description

GHG intensity measures the average GHG emissions (scope 1 and scope 2) per validated transaction in blockchain networks. This indicator reflects the environmental impact of each transaction by combining direct emissions (scope 1) and indirect emissions from purchased electricity (scope 2). The methodology is based on energy consumption and emissions data derived from Indicator 1 (Energy Consumption), Indicator 4 (Scope 1 GHG Emissions) and Indicator 5 (Scope 2 GHG Emissions).

2. Steps for calculating GHG intensity

a. Obtain total GHG emissions:

- Use the combined total of Scope 1 and Scope 2 GHG emissions for the blockchain network over a given time period (e.g., a calendar year).

Formula:

Total GHG Emissions = Scope 1 Emissions + Scope 2 Emissions

b. Count validated transactions:

- Determine the total number of transactions validated on the network during the same time period.
- Transaction data can typically be obtained from block explorers or other blockchain monitoring tools.

c. Calculate the GHG intensity per transaction:

- Divide the total GHG emissions by the total number of validated transactions.

Formula:

$$\text{GHG Intensity (kg CO}_2\text{e/transaction)} = \frac{\text{Total GHG emissions (kg CO}_2\text{e)}}{\text{Total validated transactions}}$$

3. Formula for GHG intensity

$$\text{GHG intensity (kg CO}_2\text{e/transaction)} = \frac{(\text{Scope 1 Emissions} + \text{Scope 2 Emissions})}{\text{Total number of validated transactions}}$$

Where:

- Scope 1 emissions: Direct emissions from activities controlled by nodes (e.g., backup generators).
- Scope 2 emissions: Indirect emissions from purchased electricity used by the nodes.
- Total transactions validated: the total number of transactions validated during the same period.

4. Data Sources

GHG emissions data:

- Derived from Scope 1 and Scope 2 calculations in Indicators 4 and 5.

Transaction data:

- Collected from blockchain block explorers or network-specific data providers.

5. Blockchain-specific GHG intensity considerations.

PoS networks:

- Since transactions in Proof of Stake (PoS) systems represent a small portion of total grid energy consumption, the GHG intensity metric provides a fair estimate of the emissions impact per transaction.

Time frame alignment:

- Ensure that the time frame of emissions and transaction data matches (e.g., a calendar year).

Marginal emissions:

- Consider separating marginal GHG emissions caused directly by transactions from the base emissions required to maintain the general ledger, if applicable.

6. Limitations

Assumptions in data gaps:

- In cases where granular data are not available, it may be necessary to use averages or assumptions, which could affect accuracy.

Influence of low transaction volumes:

- Networks with low transaction throughput may exhibit higher GHG intensity per transaction due to fixed energy requirements to maintain the ledger.

7. Detailed calculations

Total GHG Emissions (tCO₂e) = Scope 1 Emissions + Scope 2 Emissions

Total GHG Emissions = $3.1863 + 567.45 + \text{N/A} = 570.6363 \text{ tCO}_2\text{e}$

Thus, the estimated total GHG emissions for the utility token are 570.6363 tCO₂e

- Average GHG Emissions per transaction

The formula is:

Average GHG Emissions per Transaction (kgCO₂e/Tx) = (Total GHG Emissions (tCO₂e) x 1,000) / Number of Transactions (Tx)

Assuming 500.000 transactions:

$(570,6363 \times 1.000) / 500.000 = 0,001141 \text{ kgCO}_2\text{e/Tx}$

Thus, the average GHG emissions per transaction for the utility token are approximately 0,001141 kgCO₂e/Tx

A.7 Methodology for Generation of Waste Electrical and Electronic Equipment (WEEE)

General description

WEEE generation includes the total amount of waste electrical and electronic equipment generated by the network's validation nodes. This waste arises from the replacement or disposal of hardware used for transaction validation and maintenance of the distributed register.

In the case of blockchain networks, WEEE generation depends on the type of hardware used by validation nodes and the frequency of hardware replacement due to depreciation, decreased performance or operational requirements. This methodology applies a two-step approach to estimate the total amount of WEEE generated.

2. Steps for WEEE calculation

- a. Understand the composition and weight of the hardware:

Identify representative hardware:

- Use a reference hardware set to represent typical devices used by validation nodes in the network. The reference set may include:
- Low-power devices (e.g. Raspberry Pi).
- Mid-level devices (e.g., personal computers).
- High-performance server hardware.

Determine hardware weights and network sharing:

- Obtain the weight of each type of hardware and estimate its relative share in the network.

Formula:

WEEE contribution (device type) = Weight of device × Percentage of the network using the device.

b. Define the depreciation period:

Establish depreciation period:

- For Proof of Stake (PoS) networks, a three-year depreciation period is assumed for the hardware. This reflects industry practice and ensures alignment with environmental sustainability benchmarks.

Calculate the daily or annual generation of WEEE:

- Use the total weight of devices in the network and divide by the depreciation period to estimate the amount of WEEE generated per day or year.

Formula:

WEEE (tons) = Total weight of devices in the network ÷ Depreciation period (years).

3. Formula for total WEEE generation

Total WEEE (tons per year) = $\sum [(Device\ weight \times Network\ share) \div Depreciation\ period]$.

Where:

- Device weight: Physical weight of each type of hardware used in the network.
- Network participation: Percentage of validated nodes using a specific type of hardware.
- Depreciation period: assumed to be three years for PoS networks.

4. Data collection and assumptions

Hardware data:

- Obtain hardware specifications and weights from manufacturers or technical documentation.
- Use network statistics or external data providers to estimate the proportion of hardware types used in the network.

Depreciation period:

- This is assumed to be three years, based on the average lifetime of hardware in PoS networks.

Assumptions for missing data:

- If detailed network hardware data is not available, use averages of similar networks or industry benchmarks.

5. Considerations for blockchain-specific WEEE generation.

PoS networks:

- Hardware in PoS networks generally experiences slower depreciation compared to PoW networks due to lower power and computational demands.

Device upgrades and replacements:

- WEEE generation increases if node operators frequently upgrade hardware to improve performance or adapt to new network requirements.

Environmental impact:

- Proper recycling and disposal practices can mitigate the environmental damage associated with WEEE generation.

6. Limitations

Data availability:

- Detailed information on hardware usage and replacement rates may not always be available for decentralized networks.

Estimation variability:

- Assumptions about depreciation periods and hardware composition can introduce variability into WEEE estimates.

7. Detailed calculations

Waste Electrical and Electronic Equipment (WEEE) represents a key environmental impact associated with blockchain networks due to the infrastructure required to validate and execute transactions. For the utility token, we apply the same methodology used for eUSD to estimate the WEEE generated by the token's operations.

Total WEEE generation calculation

- Formula used

Total WEEE (tonnes) is calculated as: $\text{Total WEEE (tonnes)} = \sum (\text{WEEE})$

For eUSD, the total WEEE for the blockchain was assumed to be 5000 tonnes annually. Since our utility token operates within the same network and energy assumptions, we estimate its proportion of total WEEE based on its share of total energy consumption:

Utility token Total WEEE (tonnes) = Total WEEE * (Utility token's share of total energy consumption)

- Data used

Total WEEE (Ethereum Network): 5000 tonnes

Utility token's share of total energy consumption: 0,135% (derived from prior calculations based on energy consumption).

- Calculation

$5000 \times (0,135/100) = 6.75$ tonnes

Thus, the estimated total WEEE generated by the utility token is 6,75 tonnes per year.

A.8 Methodology for Non-Recycled WEEE Ratio

1. General Description

The rate of non-recycled WEEE measures the percentage of WEEE and electrical and electronic equipment generated by the validation nodes that are not recycled per calendar year. This indicator reflects environmental inefficiency in recycling practices and potential contribution to e-waste contamination.

The calculation requires information on total WEEE generated (Indicator 7) and WEEE recycling rates in the locations where validators operate.

2. Steps to calculate the ratio of non-recycled WEEE

a. Calculate the total WEEE generated:

- Use the methodology of Indicator 7 to estimate the total WEEE generated by the network throughout the calendar year.

b. Determine local recycling rates:

- Identify the geographic locations of the validation nodes (as described in Indicator 2).
- Obtain local recycling rates for WEEE from authorized sources such as:
- National or regional environmental agencies.
- Global organizations such as UNITAR, UNU-ViE Sustainable Cycles (SCYCLE) or the International Telecommunication Union (ITU).
- Published reports on e-waste production and recycling statistics.

c. Estimation of recycled WEEE:

- Multiply the total WEEE generated at each location by the local recycling rate to estimate the amount of WEEE recycled.

Formula:

WEEE recycled (by location) = Total WEEE × Local recycling rate

d. Calculate non-recycled WEEE:

- Subtract the recycled WEEE from the total WEEE generated to estimate the non-recycled portion.

Formula:

WEEE not recycled (by location) = total WEEE - recycled WEEE

e. Determine the proportion of WEEE not recycled:

- Divide the total WEEE not recycled by the total WEEE generated in all locations.

Formula:

Ratio WEEE not recycled (%) = (total WEEE not recycled ÷ total WEEE generated) × 100

3. Formula for the proportion of WEEE not recycled

Non-recycled WEEE ratio (%) = [(total WEEE - recycled WEEE) ÷ total WEEE] × 100

Where:

- Total WEEE: Calculated using Indicator 7.
- Recycled WEEE: Derived from local recycling rates applied to total WEEE generated.

4. Data collection and assumptions

Recycling rates:

- From state or regional authorities and global organizations specialized in e-waste monitoring.
- If specific data are not available, use regional or global averages for recycling rates.

Validator location data:

- Obtained from Indicator 2 to map validator locations to regional recycling rates.

Assumptions:

- In the absence of location-specific data, apply average recycling rates based on global or regional context.

5. Considerations for blockchain-specific WEEE recycling.

Decentralized networks:

- Validator nodes may be geographically dispersed, requiring a weighted average of recycling rates in multiple regions.

WEEE recycling infrastructure:

- The effectiveness of WEEE recycling depends on the availability and efficiency of the local recycling infrastructure, which can vary significantly between countries or regions.

6. Limitations

Data gaps:

- The availability of accurate recycling rates for all validator locations may be limited, requiring reliance on approximations or averages.

Assumption of recycling practices:

- Local recycling rates may not accurately reflect the practices of individual node operators, which introduces variability into the estimates.

7. Detailed calculations

- Formula used

The proportion of WEEE that is not recycled is estimated as:

Non-Recycled WEEE Ratio (%) = (Non-Recycled WEEE (tonnes) / Total WEEE (tonnes)) x 100

For eUSD, the non-recycled WEEE ratio was assumed to be 78% (based on blockchain infrastructure estimations). The same assumption will be applied to the utility token.

- Calculation

Non-Recycled WEEE = 6,75 x (78/100) = 5,265 tonnes

Thus, the estimated non-recycled WEEE for the utility token is 5,27 tonnes per year.

Non-recycled WEEE ratio = (5.27/6.75) x 100 = 78%

A.9 Methodology for Generation of Hazardous Waste

1. General description

Hazardous waste generation measures the amount of waste containing hazardous substances resulting from the disposal of electronic and electrical equipment used by validation nodes in blockchain networks. This indicator is based on the total WEEE calculated in Indicator 7 and estimates the hazardous component as a percentage of total WEEE, expressed in tons per year.

Hazardous waste is defined in accordance with the European Union's Waste Electrical and Electronic Equipment Directive (WEEE Directive) (2012/19/EU) and the Restriction of Hazardous Substances (RoHS 2) Directive (2011/65/EU), which identify hazardous substances such as lead, mercury, cadmium and others within electronic devices.

2. Steps for calculating hazardous waste

a. Calculate the total WEEE:

- Use the methodology of Indicator 7 to determine the total WEEE generated by the network during the calendar year.

b. Identify hazardous components in WEEE:

- Use vendor-specific Restriction of Hazardous Substances (RoHS) reports to determine the proportion of hazardous substances in electronic devices used as validation node hardware.

- Hazardous substances may include materials such as:

- Lead (Pb).

- Mercury (Hg).

- Cadmium (Cd).

- Hexavalent chromium (Cr6+).

- Polybrominated biphenyls (PBBs).
- Polybrominated diphenyl ethers (PBDE).

c. Calculate the proportion of hazardous waste:

- Multiply the total WEEE by the percentage of hazardous components identified in the RoHS reports.

Formula:

- Hazardous waste (tons) = WEEE total × Percentage of hazardous components

d. Group hazardous waste according to hardware types:

- Repeat the calculation for each type of hardware in the network and sum the results to estimate the total hazardous waste generated.

3. Formula for hazardous waste generation

Total hazardous waste (tons per year) = Σ (total WEEE × proportion of hazardous components for each type of hardware).

Where:

- Total WEEE: Calculated in Indicator 7.
- Percentage of hazardous components: percentage of hazardous substances in each type of hardware, derived from RoHS reports or similar data sources.

4. Data collection and assumptions

RoHS reports:

- These are documents provided by the supplier that disclose the hazardous material content of electronic devices.
- Use these reports for each type of hardware used in the network.

- Device specific data:
 - Collect information on the types of hardware used by validation nodes, including their contribution to WEEE and composition of hazardous materials.
 - Assumptions for missing data:
 - If supplier-specific RoHS reports are not available, use average hazardous waste percentages based on industry benchmarks or similar devices.
5. Blockchain-specific hazardous waste considerations.

PoS networks:

- Since Proof of Stake (PoS) networks use hardware that consumes less power and is often smaller in scale, the hazardous waste component is usually lower compared to Proof of Work (PoW) networks.

Life cycle and replacement:

- The rate of hazardous waste generation depends on the depreciation and replacement cycles of the hardware. A three-year depreciation period is assumed for most hardware, as described in Indicator 7.

Impact of recycling practices:

- Proper recycling practices can mitigate the environmental damage caused by hazardous waste, highlighting the importance of a robust WEEE recycling infrastructure.

6. Limitations

Data gaps:

- The availability of RoHS reports or the composition of hazardous materials for all types of hardware may vary, requiring reliance on estimates or benchmarks.

Geographic variation:

- Recycling rates and hazardous materials management practices differ by region, which affects the accuracy of hazardous waste calculations.

7. Detailed calculations

Utility token's Hazardous Waste (tonnes) = Hazardous Waste x (Utility token's share of total energy consumption)

- Data used

Total blockchain hazardous waste = 3.900 tonnes (based on eUSD's calculation).

Utility token's annual energy consumption = 7.900 kWh (as previously calculated)

Ethereum's total annual energy consumption = 5.850.000 kWh

- Values into the formula

Utility token hazardous waste = $3900 \times (7.900 / 5.850.000)$

Utility token hazardous waste = $3.900 \times 0,00135$

Utility token Hazardous waste = 5.27 tonnes

A.10 Methodology for Impact of the Use of Equipment on Natural Resources

1. General description

This indicator addresses the life cycle impact of devices used by validation nodes in blockchain networks on natural resources, covering the production, use and disposal phases. Unlike the specific quantitative metrics described in other indicators, this indicator currently requires a qualitative description of impacts, with potential for further definition as regulatory requirements evolve.

The life cycle assessment considers impacts on natural resources such as water, fossil fuels and critical raw materials during three distinct phases:

- Production phase: Extraction and processing of raw materials for hardware manufacturing.
- Use phase: Energy and water consumption during hardware operation.
- Disposal phase: Loss of resources and possible environmental damage due to improper recycling or disposal.

2. Steps to assess the impact on natural resources

a. Production phase:

Identify the materials used in the hardware:

- Analyze the hardware composition of validation nodes to identify critical raw materials (e.g., cobalt, lithium, rare earth metals).
- Use manufacturer-provided data or life cycle assessment (LCA) databases to estimate the resource intensity of device production.

Estimation of resource extraction impacts:

- Assess the environmental impacts of mining and processing of raw materials, such as land degradation, fossil fuel use and greenhouse gas emissions.
- Consult global LCA studies and industry benchmarks for resource-intensive components such as batteries or chips.

b. Use phase:

Energy consumption and water footprint:

- Link energy consumption data (Indicator 1) to regional water intensity of electricity generation.

- Example: Regions that rely on thermoelectric power plants may have a larger water footprint compared to renewable energy sources such as wind or solar.

Evaluation approach:

- Use regional water and electricity footprint databases to calculate the water consumption associated with the validator's energy use.
- Consider cooling water requirements for server-level hardware where applicable.

Exhaustion of the raw material during use:

- Evaluate resource depletion during operations, such as wear and tear on components requiring replacement (e.g., storage media or batteries).

c. Elimination phase:

Recycling and resource recovery:

- Evaluate the recovery rates of critical raw materials through recycling processes, using data from Indicator 8 (Ratio of non-recycled WEEE).

Environmental damage due to improper disposal:

- To highlight the loss of recoverable materials and the environmental impacts of landfilling or incineration of electronic waste.

Life cycle assessment framework

Water consumption:

- Water impacts in the use phase are calculated by linking the validator's energy use to regional electricity water footprints.

Use of fossil fuels:

- The impacts of the production phase on fossil fuels include the extraction of resources for the manufacture of hardware.

- Impacts from the use phase are derived from non-renewable energy sources identified in Indicator 2 (Energy mix).

Critical raw materials:

- Evaluate resource use in all phases of the life cycle, focusing on non-renewable and environmentally intensive materials, such as rare earths and lithium.

4. Data collection and assumptions

Production data:

- Use manufacturer reports or global life cycle databases to understand material usage and resource impacts.

Regional energy and water data:

- Obtain water and electric footprint and non-renewable energy mix data for validator locations.
- Sources include regional environmental agencies or global research databases.

Assumptions for missing data:

- Where data is not available, use industry averages or benchmarks from comparable devices and regions.

5. Limitations

Qualitative nature:

- Current regulatory guidelines for this indicator emphasize qualitative descriptions rather than specific metrics, making direct comparisons difficult.

Data breaches:

- Complete data on resource use at all stages of the life cycle may not be consistently available, so it will be necessary to rely on averages or secondary sources.

6. Possible future developments

This indicator may evolve into a more quantitatively defined metric as regulatory bodies, such as ESMA, publish updated requirements. Researchers and organizations should closely monitor developments to ensure compliance with emerging standards.

7. Detailed calculations

- Total water consumption

Total water consumption is estimated based on the energy consumption of the Ethereum blockchain and the water intensity per kWh. The general formula is:

$$\text{Total Water Consumption (m}^3\text{)} = \text{Total Energy Consumption (kWh)} \times \text{Water Intensity (L/kWh)} / 1000$$

Using the reference value from eUSD:

Total energy consumption: 5.850.000 kWh (Ethereum reference)

Water intensity: 15L/kWh (based on Bitcoin's estimated water footprint)

Total water consumption: $5.850.000 \times 15 / 1000$

Total water consumption = 87.750 m³

- Non-recycled water consumption calculation

Non-recycled water refers to the portion of water that becomes unavailable for reuse due to evaporation, cooling systems, and indirect losses. Given the lack of precise data, a conservative estimate assumes that 50% of total water consumption is non-recycled, as referenced from eUSD.

$$\text{Non-recycled water (m}^3\text{)} = \text{total water consumption (m}^3\text{)} \times 0,50$$

Non-recycled water = 43.875 m³

- Non-recycled water ratio

Non-recycled water ratio (%) = (Non-recycled water m³/total water consumption m³) x 100

Non-recycled water ratio = (43.875/87.750) x 100

Non-recycled water ratio = 50%

- Utility token-specific impact on natural resources

Since the utility token has not been issued yet, we estimate its water consumption based on its share of Ethereum's total energy consumption, using the same methodology applied to eUSD.

For the utility token-specific water consumption, the formula used is:

Utility token's Total Water Consumption (m³) = Total Water Consumption (m³) x (utility token's share of total energy consumption)

Using previously calculated Utility Token's share of total energy consumption (0,0135%).

Utility token total water consumption = 87.750 x 0,00135

Utility token total water consumption = 118,46 m³

- Utility token-specific non-recycled water consumption

Utility token Non-Recycled Water (m³) = Non-Recycled Water (m³) x (Utility token's share of total energy consumption)

Utility token Non-Recycled Water = 43.875 x 0,00135

Utility token Non-Recycled Water = 59,23m³

- Utility token non-recycled water ratio

Utility token's Non-Recycled Water Ratio (%) = (Utility token's Non-Recycled Water (m³) / Utility token's specific Total Water Consumption (m³)) x 100

Utility token's Non-Recycled Water Ratio = (59,23/118,46) x 100

Utility token's Non-Recycled Water Ratio = 50%