Bittensor (TAO) ESG Disclosure

Reporting period: 2024-06-09 to 2025-06-09

ESG (Environmental, Social, and Governance) regulations for crypto assets aim to address their environmental impact (e.g., energy-intensive mining), promote transparency, and ensure ethical governance practices to align the crypto industry with broader sustainability and societal goals. These regulations encourage compliance with standards that mitigate risks and foster trust in digital assets.

General Information

Name	Coinmotion Oy
Relevant legal entity identifier	743700PZG5RRF7SA4Q58
Name of the crypto-asset	Bittensor
Consensus Mechanism	Bittensor employs a Proof-of-Stake consensus mechanism tailored for integrating blockchain technology with decentralized AI, ensuring secure, efficient, and reliable contributions from its participants. Proof of Stake (PoS) with Neural Consensus: Proof of Stake (PoS): Bittensor operates on a PoS consensus model, where validators are selected based on the amount of TAO tokens staked. Validators secure the network by producing and validating blocks, ensuring transaction integrity. Neural Consensus Integration: A unique feature of Bittensor is its neural consensus, which evaluates the quality of work performed by AI models on the network. Nodes are incentivized to contribute meaningful computations for tasks like AI training, which are validated through peer review and network-wide voting. Dynamic Validator Selection: The network dynamically adjusts validator participation, prioritizing nodes that contribute both computational and staking resources effectively. Scalability and Security: The combined PoS and neural consensus model ensures scalability for AI-centric workloads while maintaining blockchain-level security.
Incentive Mechanisms and Applicable Fees	Bittensor incentivizes network participants through token rewards for securing the network and contributing to its AI capabilities, with a fee structure designed to sustain network operations and encourage participation. Incentive Mechanism: TAO Rewards for Validators: Validators earn TAO tokens as rewards for securing the network, validating transactions, and maintaining blockchain integrity. Rewards are distributed based on the validator's staked TAO tokens and performance in the consensus process. AI Contribution Rewards: Nodes contributing to the network's AI computations (e.g., training models) are rewarded in TAO tokens. Rewards are determined by the quality and relevance of contributions, as evaluated through the neural consensus mechanism. Delegation Rewards: TAO holders who delegate their tokens to validators earn a share of staking rewards, encouraging broader participation in network security and governance. Dynamic Incentive Structure: Rewards are dynamically allocated based on network activity and AI workloads, promoting sustained contribution and high-quality participation. Applicable Fees: Transaction Fees: Users pay transaction fees in TAO tokens for processing transactions on the network. Fees are distributed to validators as additional compensation. AI Service Fees: Applications utilizing Bittensor's AI services pay fees in TAO tokens, incentivizing nodes to perform computations and contribute resources. Low-Cost Fee Model: The network employs a cost-efficient fee structure to attract developers and users while ensuring sustainability for validators and contributors.
Beginning of the period	2024-06-09
End of the period	2025-06-09

Environmental Indicators

Energy consumption	**25228.80000 (kWh/a)**

Energy consumption resources and methodologies	For the calculation of energy consumptions, the so called “bottom-up” approach is being used. The nodes are considered to be the central factor for the energy consumption of the network. These assumptions are made on the basis of empirical findings through the use of public information sites, open-source crawlers and crawlers developed in-house. The main determinants for estimating the hardware used within the network are the requirements for operating the client software. The energy consumption of the hardware devices was measured in certified test laboratories. When calculating the energy consumption, we used - if available - the Functionally Fungible Group Digital Token Identifier (FFG DTI) to determine all implementations of the asset of question in scope and we update the mappings regulary, based on data of the Digital Token Identifier Foundation.
Renewable energy consumption	
Energy intensity	(kWh)
Scope 1 DLT GHG emissions - Controlled	(tCO2e/a)
Scope 2 DLT GHG emissions - Purchased	(tCO2e/a)
GHG intensity	(kgCO2e)
Key energy sources and methodologies	
Key GHG sources and methodologies	

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