

BVNK

Sustainability indicators for TRON TRX

Disclosures in accordance with
Article 66 (5) MiCAR.



This report was provided by Crypto Risk Metrics.

2025-11-19

Preamble

About the Crypto Asset Service Provider (CASP)

Name of the CASP: System Pay Services (Malta) Limited
Street and number: TRQ SANT'ANDRIJA, Malta
City: SAN GILJAN
Country: Malta
LEI: 984500640Z8ADE893D04

About this report

This disclosure serves as evidence of compliance with the regulatory requirements of MiCAR 66 (5). This requirement obliges crypto asset service providers to disclose significant adverse factors affecting the climate and the environment. In particular, this disclosure complies with the requirements of “Commission Regulation (EU) 2025/422 of December 17, 2024, supplementing Regulation (EU) 2023/1114 of the European Parliament and of the Council with regard to regulatory technical standards specifying the content, methods and presentation of information relating to sustainability indicators related to climate-related and other environmental impacts.” The optional information specified in Article 6, par. 8 (a) to (d) DR 2025/422 is not included.

This report is valid until material changes occur in the data, which will result in an immediate adjustment of this report.

Sustainability indicators

TRON TRX



Quantitative information

Field	Value	Unit
S.1 Name	System Pay Services (Malta) Limited	/
S.2 Relevant legal entity identifier	984500640Z8ADE893D04	/
S.3 Name of the crypto-asset	TRON TRX	/
S.6 Beginning of the period to which the disclosure relates	2024-11-19	/
S.7 End of the period to which the disclosure relates	2025-11-19	/
S.8 Energy consumption	4037306.86538	kWh/a
S.10 Renewable energy consumption	33.4000000000	%
S.11 Energy intensity	0.00002	kWh
S.12 Scope 1 DLT GHG emission - Controlled	0.00000	tCO2e
S.13 Scope 2 DLT GHG emission - Purchased	1586.66160	tCO2e
S.14 GHG intensity	0.00001	kgCO2e

Qualitative information

S.4 Consensus Mechanism

The Tron blockchain operates on a Delegated Proof of Stake (DPoS) consensus mechanism, designed to improve scalability, transaction speed, and energy efficiency.

Core Components:

1. Delegated Proof of Stake (DPoS): Tron uses DPoS, where token holders vote for a group of delegates known as Super Representatives (SRs) who are responsible for validating transactions and producing new blocks on the network. Token holders can vote for SRs based on their stake in the Tron network, and the top 27 SRs (or more, depending on the protocol version) are selected to participate in the block production process. SRs take turns producing blocks, which are added to the blockchain. This is done on a rotational basis to ensure decentralization and prevent control by a small group of validators.
2. Block Production: The Super Representatives generate new blocks and confirm transactions. The Tron blockchain achieves block finality quickly, with block production occurring every 3 seconds, making it highly efficient and capable of processing thousands of transactions per second.
3. Voting and Governance: Tron's DPoS system also allows token holders to vote on important network decisions, such as protocol upgrades and changes to the system's parameters. Voting power is proportional to the amount of TRX (Tron's native token) that a user holds and chooses to stake. This provides a governance system where the community can actively participate in decision-making.
4. Super Representatives: The Super Representatives play a crucial role in maintaining the security and stability of the Tron blockchain. They are responsible for validating transactions, proposing new blocks, and ensuring the overall functionality of the network. Super Representatives are incentivized with block rewards (newly minted TRX tokens) and transaction fees for their work.

S.5 Incentive Mechanisms and Applicable Fees

The Tron blockchain uses a Delegated Proof of Stake (DPoS) consensus mechanism to secure its network and incentivize participation.

Incentive Mechanism:

1. Super Representatives (SRs) Rewards:
 - Block Rewards: Super Representatives (SRs), who are elected by TRX holders, are rewarded for producing blocks. Each block they produce comes with a block reward in the form of TRX tokens.
 - Transaction Fees: In addition to block rewards, SRs receive transaction fees for validating transactions and including them in blocks. This ensures they are incentivized to process transactions efficiently.
2. Voting and Delegation:
 - TRX Staking: TRX holders can stake their tokens and vote for Super Representatives (SRs). When TRX holders vote, they delegate their voting power to SRs, which allows SRs to earn rewards in the form of newly minted TRX tokens.
 - Delegator Rewards: Token holders who delegate their votes to an SR can also receive a share of the rewards. This means delegators share in the block rewards and transaction fees that the SR earns.
 - Incentivizing Participation: The more tokens a user stakes, the more voting power they have, which encourages participation in governance and network security.

3. Incentive for SRs:

SRs are also incentivized to maintain the health and performance of the network. Their reputation and continued election depend on their ability to produce blocks consistently and efficiently process transactions.

Applicable Fees:

1. Transaction Fees:

- Fee Calculation: Users must pay transaction fees to have their transactions processed. The transaction fee varies based on the complexity of the transaction and the network's current demand. This is paid in TRX tokens. Transaction
- Fee Distribution: Transaction fees are distributed to Super Representatives (SRs), giving them an ongoing income to maintain and support the network.

2. Storage Fees:

Tron charges storage fees for data storage on the blockchain. This includes storing smart contracts, tokens, and other data on the network. Users are required to pay these fees in TRX tokens to store data.

3. Energy and Bandwidth:

Energy: Tron uses a resource model that allows users to access network resources like bandwidth and energy through staking. Users who stake their TRX tokens receive \energy

S.9 Energy consumption sources and methodologies

The energy consumption of this asset is aggregated across multiple components:

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 regularly, based on data of the Digital Token Identifier Foundation. The information regarding the hardware used and the number of participants in the network is based on assumptions that are verified with best effort using empirical data. In general, participants are assumed to be largely economically rational. As a precautionary principle, we make assumptions on the conservative side when in doubt, i.e. making higher estimates for the adverse impacts.

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

S.15 Key energy sources and methodologies

To determine the proportion of renewable energy usage, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from Our World in Data, see citation. The intensity is calculated as the marginal energy cost wrt. one more transaction.

Ember (2025); Energy Institute - Statistical Review of World Energy (2024) - with major processing by Our World in Data. "Share of electricity generated by renewables - Ember and Energy Institute" [dataset]. Ember, "Yearly Electricity Data Europe"; Ember, "Yearly Electricity Data"; Energy Institute, "Statistical Review of World Energy" [original data]. Retrieved from <https://ourworldindata.org/grapher/share-electricity-renewables>.

S.16 Key GHG sources and methodologies

To determine the GHG Emissions, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from Our World in Data, see citation. The intensity is calculated as the marginal emission wrt. one more transaction.

Ember (2025); Energy Institute - Statistical Review of World Energy (2024) - with major processing by Our World in Data. "Carbon intensity of electricity generation - Ember and Energy Institute" [dataset]. Ember, "Yearly Electricity Data Europe"; Ember, "Yearly Electricity Data"; Energy Institute, "Statistical Review of World Energy" [original data]. Retrieved from <https://ourworldindata.org/grapher/carbon-intensity-electricity> Licenced under CC BY 4.0.

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Crypto Risk Metrics

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