

Tron (TRX)

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

Indicator Code	Field Name	Content
S.1	Name	Payhound Limited
S.2	Relevant legal entity identifier	9845001DD90AF543DC90
S.3	Crypto-Asset Name	TRON (TRX)
S.4	Consensus Mechanism	Proof-of-Stake (PoS)
S.4	Incentive Mechanisms and Applicable Fees	A Proof-of-Stake (PoS) consensus system motivates validators to help secure the blockchain and verify transactions by requiring them to lock up their own cryptocurrency as collateral. Instead of relying on computing power, validators are chosen to add new blocks based on how much crypto they have staked. Honest participants are rewarded with transaction fees, while those who behave dishonestly or attempt to add invalid blocks risk losing a portion of their staked funds. This built-in economic penalty helps prevent misconduct and maintains the integrity of the network. Fees include energy and bandwidth fees charged in TRX for network computations or data transfer, variable with network demand.
S.6	Start of Reporting Period	2024-01-01
S.7	End of Reporting Period	2024-12-31
S.8	Energy Consumption (kWh/year)	162,868
S.9	Energy consumption sources and Methodologies	Annual energy consumption (S.8): Based on CCRI's detailed energy use measurement of ~162,868 kWh/year, placing TRON among the most energy-efficient blockchain networks (source). Transaction volume (S.9): Derived from CCRI's transaction metrics and throughput analysis (~2.31 billion transactions) (source). Energy intensity per transaction (S.11): Calculated using CCRI per-node energy estimations and transaction counts (~0.07028 Wh/tx) (source). GHG emissions (S.12 & S.14): Emissions calculated by applying regional carbon intensity values to total energy consumption estimates.

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		Transition plans (S.18): TRON Climate Initiative emphasizes sustainability efforts and renewable energy adoption among validator hosts (source).
S.10	Renewable Energy consumption (percentage of the total amount of energy used per calendar year)	Undetermined (geo-weighted not available)
S.11	Energy Intensity (energy used per validated transaction in kWh)	0.00007
S.12	Scope 1 DLT GHG emissions – Controlled (in t CO ₂ eq per year)	0
S.13	Scope 2 DLT GHG emissions – Purchased (in t CO ₂ eq per year) 7	69.47
S.14	GHG Intensity (emissions per validated transaction in kg CO ₂ eq)	~0.00003 kg CO ₂ e
S.15	Key energy sources and methodologies	<p>Energy measurements: CCRI used physical node profiling across representative validator hardware. Network energy use: Derived from node count and activity: 162,868 kWh/year irena.org. Energy intensity: Computed from annual energy divided by total transactions (~0.00007 kWh/tx). Renewable share methodology:</p> <ul style="list-style-type: none"> • Validator geolocation via crawler tools • Aggregation with IEA, UNFCCC, IRENA, GWEC, Ember, Energy Institute datasets • Applied to country-level renewable energy penetration rates (e.g., wind, solar) (source).
S.16	Key GHG sources and methodologies	<p>Scope 1: Zero—no direct emissions (source). Scope 2:</p> <ul style="list-style-type: none"> • Network annual energy (162,868 kWh) multiplied by grid-average CO₂ intensity (426.5 g CO₂eq/kWh) Global Renewables Alliance. • Country-specific factors sourced from UNFCCC inventories and IEA. <p>GHG intensity: Emissions per transaction computed via transaction count. Offsets/exclusions: No offsets or renewable certificates are included; all emissions are location-based per MiCA methodology.</p>