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

N	Field	Content
General information		
S.1	Name	Bitvavo B.V.
S.2	Relevant legal entity identifier	724500MX2WBKDJP9HE56
S.3	Name of the cryptoasset	Immutable
S.4	Consensus Mechanism	Byzantine-Fault Tolerant (BFT)
S.5	Incentive Mechanisms and Applicable Fees	Byzantine-Fault-Tolerant (BFT) consensus mechanisms, such as Proof of Authority (PoA), Practical Byzantine Fault Tolerance (PBFT), Byzantine Agreement (BA) or similar mechanisms, secure the network through a predefined set of validators who are trusted to validate transactions and add blocks to the ledger. Unlike open networks where anyone can participate (as in Proof-of-Work or Proof-of-Stake), BFT and similar mechanisms operate with known and vetted participants, often selected by a governing entity. Validators are incentivized to maintain the network's integrity through monetary rewards or external motivations, such as institutional trust or regulatory obligations. Malicious actions, such as submitting invalid transactions or failing to participate in consensus, can result in penalties, removal from the validator set, or other repercussions, creating an economic and reputational deterrent to dishonest behavior. Validators reach consensus by verifying transactions and proposing blocks, and, as long as a majority of validators act honestly, the network remains secure.
S.6	Beginning of the period to which the disclosure relates	2026-11-01
S.7	End of the period to which the disclosure relates	2026-11-14
Mandatory key indicator on energy consumption		
S.8	Energy consumption (per year) in kWh	442730.38099
Sources and methodologies		
S.9	Energy consumption sources and methodologies	Data provided by CCRI; all indicators are based on a set of assumptions and thus represent estimates; methodology description and overview of input data, external datasets and underlying assumptions available at: carbon-ratings.com/dl/whitepaper-mica-methods and docs.carbon-ratings.com. We do not account for any offsetting of energy consumption or other market-based mechanism as of today.

Last review: 2026-11-15

Supplementary key indicators on energy and GHG emissions		
S.10	Renewable energy consumption (share of energy from renewable generation resources) in %	29.821428571
S.11	Energy intensity (energy used per validated transaction) in kWh	0.00002
S.12	Scope 1 DLT GHG emissions – Controlled (per year) in t CO_2eq	0
S.13	Scope 2 DLT GHG emissions – Purchased (per year) in t CO_2eq	201.19789
S.14	GHG intensity (emissions per validated transaction) in kg CO_2eq	0.00001
Sources and methodologies		
S.15	Key energy sources and methodologies	Data provided by CCRI; all indicators are based on a set of assumptions and thus represent estimates; methodology description and overview of input data, external datasets and underlying assumptions available at: carbon-ratings.com/dl/whitepaper-mica-methods and docs.carbon-ratings.com. We do not account for any offsetting of energy consumption or other market-based mechanism as of today.
S.16	Key GHG sources and methodologies	Data provided by CCRI; all indicators are based on a set of assumptions and thus represent estimates; methodology description and overview of input data, external datasets and underlying assumptions available at: carbon-ratings.com/dl/whitepaper-mica-methods and docs.carbon-ratings.com. We do not account for any offsetting of energy consumption or other market-based mechanism as of today.