Filecoin Green Energy Consumption Dataset Description

Through Filecoin Green, Filecoin aims to measure its environmental impacts and verifiably drive them below zero. This dataset provides comprehensive data about Filecoin storage energy consumption metric from August 2021 until now. For more information please check out the following links : https://filecoin-green.gitbook.io/filecoin-green-documentation/filecoin-green-api-docs/list-of-apis/energy-consumption-api

Description of the dataset fields :

Name	Type	Unit	Description
Date	Date		ISO 8601 formatted date
Data storage capacity	Float	GiB	The total amount of data storage capacity contributed to Filecoin's decentralized storage network, based on on-chain proofs.
Data storage capacity added per day	Float	GiB	New data storage capacity added to Filecoin's decentralized storage network (sealed) per day.
Cumulative renewable energy purchases	Float	kWh	Cumulative renewable energy certificate (REC) purchases over time.
Energy intensity lower bound	Float	MW/EiB	Total electrical power used by the Filecoin network divided by data storage Capacity.
Energy intensity estimate bound	Float		
Energy intensity upper bound	Float		
Energy consumption rate lower bound	Float	kW	The total rate of electrical energy use. This is the sum of sealing and storage energy use, multiplied by a Power Usage Effectiveness (PUE) representing overhead energy costs such as cooling and power conversion. Bounds and estimate come from combining the bounds and estimates of sealing and storage energy, as well as different values of estimated PUE.
Energy consumption rate estimate bound	Float		
Energy consumption rate upper bound	Float		
Energy used to seal data lower bound	Float	kW	Sealing is the process of generating SNARK proofs for a data sector which will allow an SP to prove that they are continuing to store that data over time, and is one of the components of energy use of the Filecoin network. Energy use due to sealing is estimated by multiplying the increase in storage capacity over a given time period by a constant value as described in the methodology. Bounds and estimate come from different values of this constant.
Energy used to seal data estimate bound	Float		
Energy used to seal data upper bound	Float		
Cumulative energy use lower bound	Float	kWh	Total amount of energy used during a time period.
Cumulative energy use estimate bound	Float		
Cumulative energy use upper bound	Float		
Energy used to store data lower bound	Float	kW	The energy used to store data over time, which is a component of the energy used by the Filecoin network. Storage energy use is estimated by multiplying storage capacity by a constant value. Bounds and estimate come from different values of this constant.
Energy used to store data estimate bound	Float		
Energy used to store data upper bound	Float		