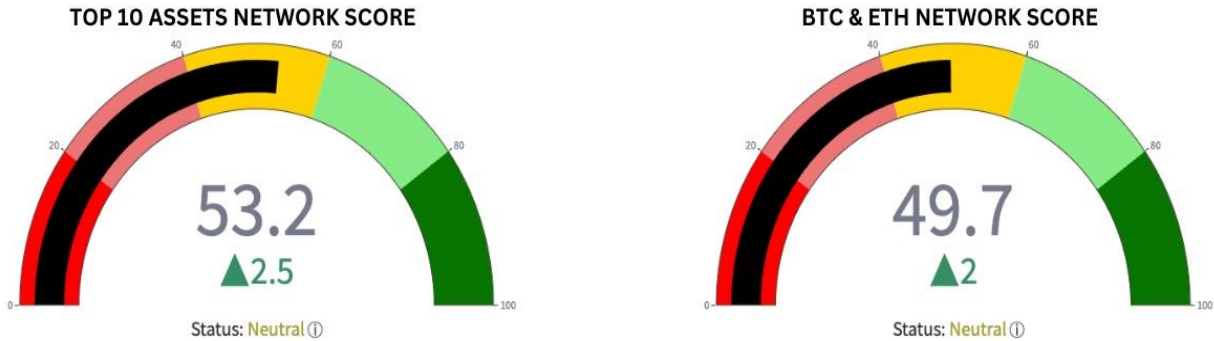


Digital Pulse Report: Seize Today

FUNDAMENTAL PULSE – WEEKLY NETWORK PERFORMANCE



TOTAL USERS	ACTIVE USERS	TRANSFERS	MARKET CAP	ONCHAIN VOLUME
212,785,505.0 ↑ 0.54%	1,977,467.0 ↓ -4.24%	2,972,736.0 ↑ 0.02%	1,053,564,440,056.87 ↑ 3.44%	32,352,894,173.11 ↑ 17.15%

WEEKLY NETWORK PERFORMANCE OF THE TOP 10 ASSETS

Bitcoin miners will get a 50% BTC pay cut, with the halving in April 2024. Rising demand for the network, and stronger prices are key for miners. They have good news – Bitcoin network demand is on the rise.

ASSETS	ASSET SCORE	7D CHANGE	30D CHANGE	VOLUME	TRANSFERS	ACTIVE USERS	USER GROWTH	VALUATION	NETWORK DISTRIBUTION	VELOCITY
Top 10 Assets	53	3	18	47	70	51	49	78	64	11
BTC & ETH	50	2	18	46	75	48	48	83	44	5
Bitcoin	65	2	28	28	86	85	72	95	86	0
Ethereum	35	2	7	63	63	11	24	71	1	9
Ripple	55	8	27	42	84	48	56	57	100	1
Dogecoin	48	6	11	54	57	31	31	66	100	1
Cardano	61	8	9	67	48	28	21	65	100	100
Polygon	36	-1	6	52	41	38	24	51	44	4
Litecoin	50	4	15	86	41	33	40	56	97	0
Bitcoin Cash	33	-12	-6	39	14	22	60	81	13	1
Chainlink	83	-1	20	82	79	83	67	91	80	100
Stellar	61	3	12	59	81	69	32	71	100	13

*Snapshot from the Coinbase Asset Management Pulse on 11/8/2023. Pulse Report includes the top ten assets by market capitalization. More than 70 assets and risk management tools are available for demonstration on request.

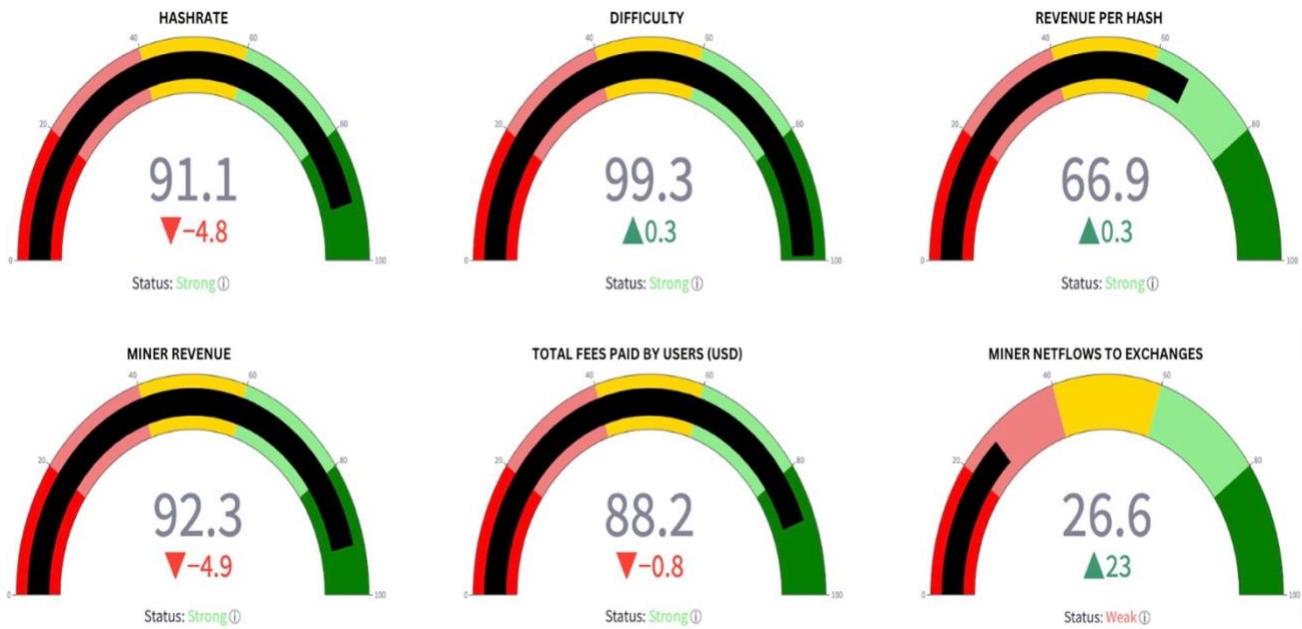
Notes: The Scores are 12-month trailing percentile values. Changes on the gauge chart represent the seven-day change. “Top 10 Assets” are size-tilt weighted, the square root of market capitalization. “BTC & ETH” are equally weighted. High > 60, Neutral 40 to 60, Low < 40. A score of 41.8 means the score is better than 41.8% of its values in the past 365 days. Asset Scores are unique and sensitive to changes in a particular asset. Readers should not compare Asset Scores across assets.

Please see metric descriptions endnotes for details.

Seize Today: The Bitcoin Mining Pulse tells a compelling story – a [242%](#) surge in computational power, known as the hashrate, over two years. This is a markedly different pattern than the theme heading into the 2020 halving, when hashrate stagnated ahead of the cut to mining rewards. What has changed? Economics and efficiency. Once buoyed by Bitcoin's 2021 price hike and record mining margins, mining companies stocked up on mining machines. Fast forward, and Bitcoin's price plummeted to a low 77% from its peak price – now at [47%](#). Miners shifted gears to damage control. They ran only profitable rigs. A silver lining emerged as the demand for ASIC machines dropped, leading to enticingly-low prices. The resurgent interest in older machines was followed by rising Bitcoin prices. A virtuous cycle emerged – hashrates soared. Yet, a question looms. How sustainable is the hashrate rise with the halving of bitcoin mining rewards around the corner? There is a hunt for cost-effective rigs to stay afloat after the halving event. The prime target has been the [Antminer S21 models](#), which offer a steep 18% cut in the variable cost of producing Bitcoin. Discipline is forcing greater efficiency. For now, miners relish a stronger Pulse Score. But miners are wary of the approaching date. The guiding principle? Seize today; face tomorrow with prudence.

A STRONGER MINING PULSE

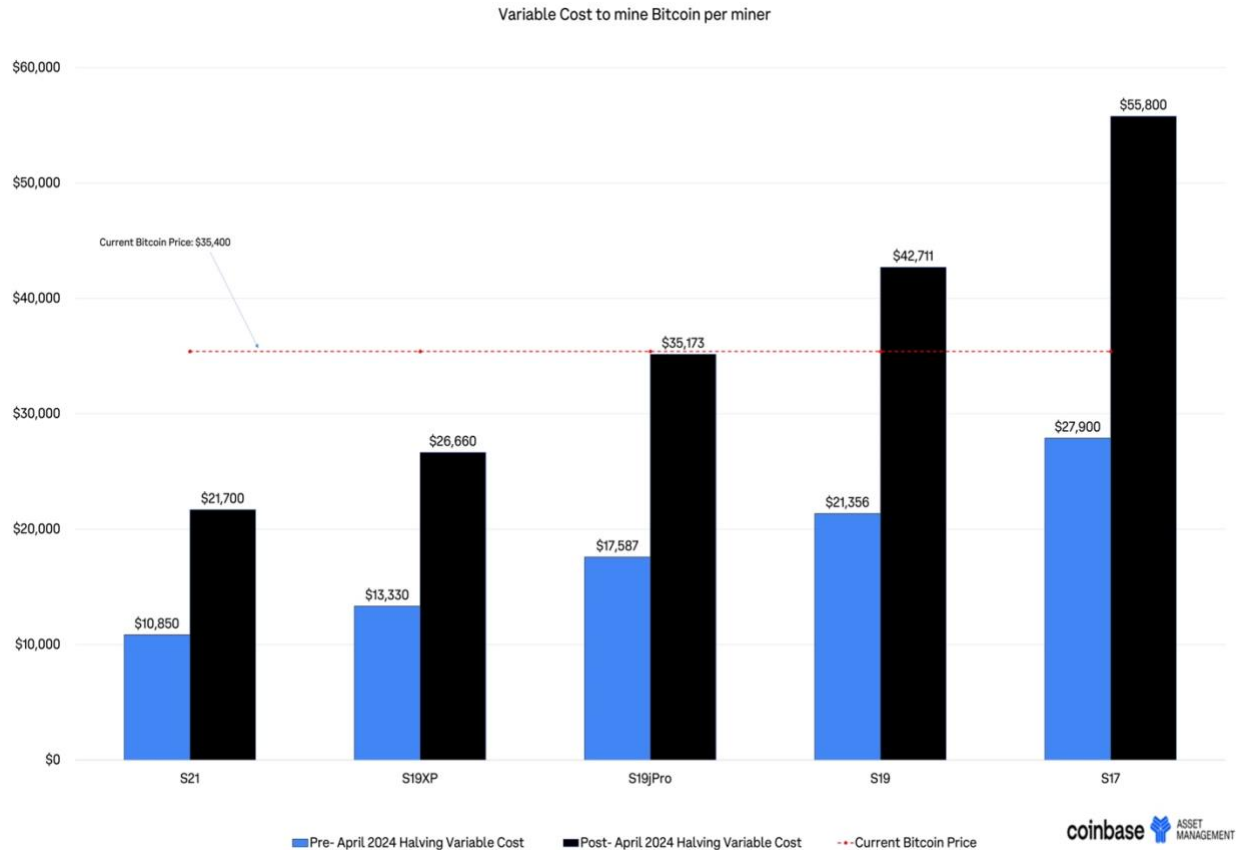
The Bitcoin mining sector has grown stronger in the past year. As hashrate climbs higher, revenue per hash has reached robust levels, currently standing at 66.9. This has been strongly supported by moderate power prices and a surging transaction volume.



Source: Coinbase Asset Management Pulse. The Scores are 12-month trailing percentile values. Changes on the gauge chart represent the seven-day change.

COST OF PRODUCING BITCOIN

The Antminer S21 miners lead in cost efficiency for bitcoin mining, with the S19XP close behind. Although older mining models are workable today, the halving of bitcoin rewards necessitates a rise in Bitcoin prices and lower hashrates for these older units to remain profitable.



Source: Bloomberg LP. Coin Metrics. The figure above assumes constant Bitcoin prices and hashrates from now through the April 2024 halving and beyond. Power prices are also held constant at \$50/MWh 1-year forward electricity price contract. Bitcoin Price as of 8/11/2023.

Metric Definitions

1. Volume – The aggregated value of native units transferred between addresses on-chain.
2. Transfer Count – The sum count of transfers between addresses. It becomes more valuable when used in conjunction with Volume.
 - 2.1 Low Transfer Count & High Volume: High volume but transferred by a few addresses.
 - 2.2 High Transfer Count & Lower Volume: Indicates higher retail activity or exchanges amongst small accounts.
 - 2.3 Lower Transfer Count & Lower Volume: Indicates slower network usage and low network demand.
 - 2.4 High Transfer Count & Higher Volume: Indicates high network usage. A persistent trend is substantial.
3. Active Users: Number of addresses active in the network as recipients or originators of ledger change. This includes value transfers, signing blocks, and other forms of ledger change activity.
 - 3.1 High Value: High network usage and high demand.
 - 3.2 Low Value: Low network usage and low demand.
4. User Growth Rate: The rate at which new addresses with non-zero balances are added to the network.
 - 4.1 High Value: Indicates users being added to the network at an increasing rate.
 - 4.2 Low Value: Indicates users being added to the network at a slower pace.
5. Valuation: This metric compares the on-chain volume to the realized capitalization representing the value of the network. Realized capitalization is a revised form of market capitalization that accounts for the value of the coin at the time the coin was last spent. A lower volume compared to the high value of the network indicates the network could be overvalued and vice versa.
 - 5.1 High Value: Indicates the network is closer to its real value based on the on-chain volume.
 - 5.2 Low Value: Indicates the network is very close to being overvalued considering the activity on the network.
 - 5.3 Medium value: Asset is reasonably valued—sustainable demand for transactions.
6. Velocity: This indicator shows the turnover of coins in the network as measured by on-chain volume divided by active supply. The primary use of this metric in this instance is to help assess an asset's market-relevant supply.
 - 6.1 High Value: There is greater circulation of coins in the network and use for payments.
 - 6.2 Lower Value: There is lower circulation of coins in the network and use for payments.
7. Network distribution: The metric used, the SER ratio, compares the smallest accounts (sum held by accounts with a balance less than 0.00001% of the supply) against the richest accounts (sum held by the top 1% addresses).
 - 7.1 High Value: Signifies high distribution of supply and higher decentralization.
 - 7.2 Low Value: Low supply distribution and heavy concentration amongst a few wallets.

Disclaimer

One River Digital Asset Management has been acquired by Coinbase and is now Coinbase Asset Management. Additional details on the transaction may be found on the [Coinbase blog](#). References to One River Asset Management and One River Digital Asset Management may be contained herein during the transition period but are subject to change.

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