



VanEck Mid-January Bitcoin ChainCheck

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Bitcoin hit new highs post-Trump inauguration. This month, we review policy shifts, adoption trends, and miner strategies to shape the next phase of the market under the new administration.

Please note that VanEck has exposure to bitcoin.

Three key takeaways for mid-December – mid-January:

1. **All Eyes on Trump's First 100 Days:** Bitcoin's choppy price action, driven by betting market odds for a Strategic Bitcoin Reserve, highlights the market's focus on this binary catalyst. Despite bullish policy signals, the tumultuous launch of Trump's memecoins and the White House's early executive orders, which excluded crypto, have left the market recalibrating expectations.
2. **Bitcoin Miner Stratification:** As VanEck prepares to become even more active managers of digital transformation stocks, our research shows how Bitcoin miners' sensitivity to BTC prices varies

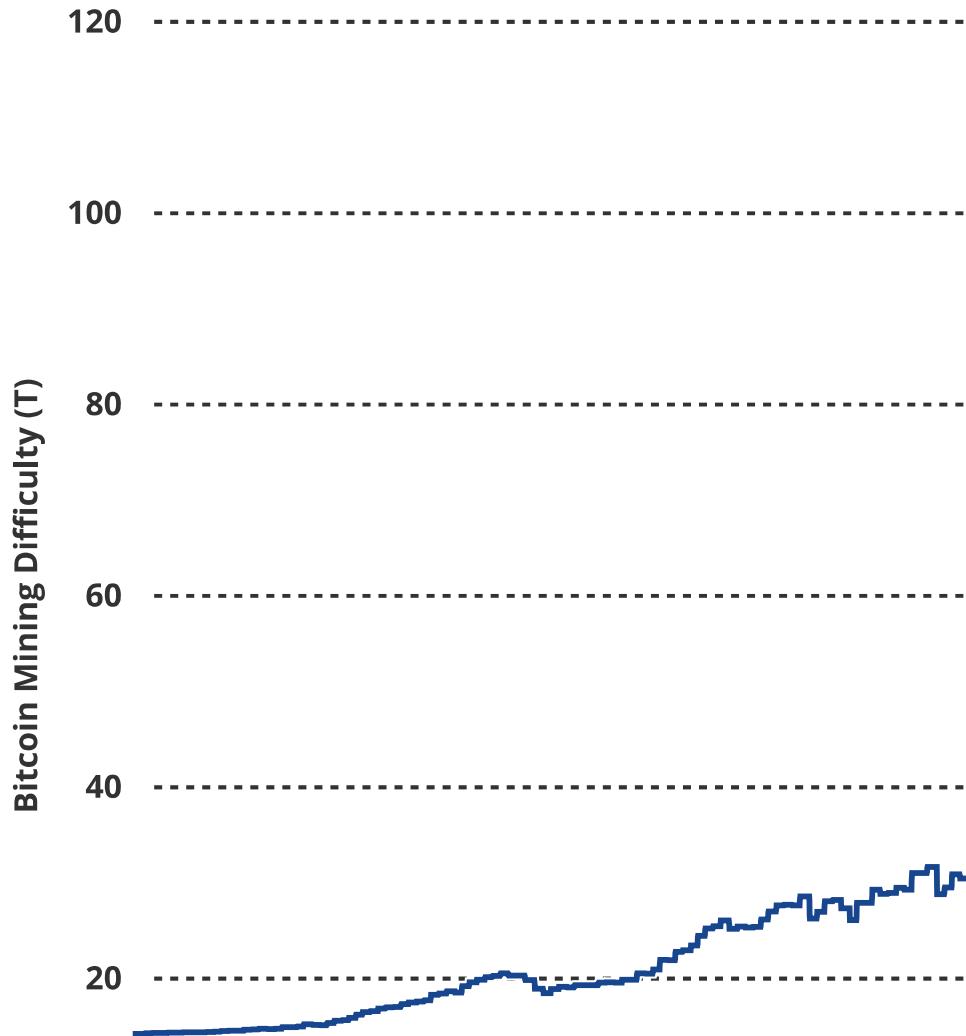
by strategies like treasury holdings and AI/HPC pivots, offering distinct opportunities for investors.

3. **Mining Difficulty Is “Up Only”**: Miners upgraded their hashrate despite sideways prices, pushing mining difficulty higher and signaling optimism. Their Bitcoin stockpiling underscores bullish sentiment and confidence in long-term network growth."

- **Bitcoin Price Action**
- **Bitcoin Treasury Adoption**
- **Bitcoin Miners**
- **Bitcoin Monthly Dashboard**
- **Bitcoin’s Network Activity, Adoption, and Fees**

Chart of the Month

Mining Difficulty Continues to Climb, Reflecting Positive Network Sentiment



Source: Glassnode as of 01/13/2025.

Context: Bitcoin's mining difficulty, measured in Terahashes ($T = 1$ trillion hashes), reflects the computational effort required to solve a block and earn rewards. It adjusts every **2,016** blocks (~2 weeks) to maintain a **10-minute** block time.

Insight: Mining difficulty is up ~57% year over year (YoY), driven by rising miner competition, market optimism, and enhanced network security. This aligns with reports of Russian Bitcoin mining equipment demand tripling in Q4 2024 as BRICS nations adopt Bitcoin to counter U.S. monetary dominance.

Bitcoin's Price Action

Market sentiment: Bitcoin prices rebounded after choppy selloffs from mid-December to mid-January, retracing from ~**\$108K** on December 17th to ~**\$89K (-18%)** on January 13th. The market remains focused on Trump's second term, particularly his proposed 'Strategic Bitcoin Reserve,' which was first announced at the Bitcoin 2024 conference. BTC prices have consistently spiked alongside Polymarket odds for 'Will Trump create Bitcoin reserve in first 100 days?' on key dates, including November 21st, December 16th, January 6th, January 15th, and January 20th, underscoring the market's sensitivity to this potential catalyst. In our view, Bitcoin's sharp climb from **\$69k** to **\$100k** after Trump's election likely priced in his victory, while the subsequent sideways action highlights the looming SBR decision as a binary driver.

Reception to Trump's inauguration has been mixed. Bitcoin hit new all-time highs above **\$109k** on inauguration day, driven by anticipation of pro-crypto day-one executive orders. However, none materialized. Speculation had centered on sweeping measures like a Strategic Bitcoin Reserve (SBR), repealing SAB 121 to let banks hold Bitcoin, halting federal crypto litigation, and pardoning Silk Road founder Ross Ulbricht. Their absence prompted markets to recalibrate expectations, sending Bitcoin back into a rangebound pattern.

Further complicating the post-inauguration narrative, Trump quietly launched his own 'Official Trump Meme' coin on Solana during the first-ever Crypto Ball in Washington, D.C. The sudden debut of the '\$TRUMP' coin sparked a speculative frenzy, dominating crypto headlines over the weekend. Within hours, the coin's fully diluted valuation surpassed **\$75 billion**, marking one of the digital assets' fastest wealth-creation events. However, the launch faced significant criticism from industry insiders, who saw it as a self-serving money grab rather than advancing crypto's decentralized ethos. These critiques exacerbated the absence of expected day-one executive orders, deepening frustrations over Trump's pro-crypto policy commitments.

Together, these developments underscore the mixed reception to Trump's inauguration. Market optimism for pro-crypto policies collided with disappointment over the absence of key executive orders.

Meanwhile, state and corporate actors have continued to adopt Bitcoin, reinforcing its role as a strategic financial asset amid policy uncertainty.

Bitcoin Treasury Adoption

Building on last month's review of **emerging corporate, national, and state-level Bitcoin treasury developments**, these actors have joined the chorus:

- **Czech:** On January 6th, Czech National Bank Governor Aleš Michl said the Bank is considering investing in Bitcoin as a reserve asset.
- **Meta:** On January 10th, Meta shareholders proposed allocating part of the company's **\$72 billion** in cash and equivalents to Bitcoin, citing its potential as a hedge against inflation and low bond yields. The proposal highlighted Meta CEO Mark Zuckerberg's and board member Marc Andreessen's personal connections to Bitcoin, as well as BlackRock's (#2 shareholder) broader recommendation for a **2%** allocation.
- **Florida:** On January 14th, Samuel Armes, Founder of the Florida Blockchain Business Association (FBBA), announced that Florida's strategic Bitcoin reserve initiative is moving forward, sharing an update on social media: 'Deal sealed. It's happening.' This follows his December statement that there was a 'very good chance' of the initiative being established in 2025.
- **Intesa Sanpaolo:** On January 14th, Italy's biggest bank made its first proprietary Bitcoin trade, purchasing **€1,000,000** as a "test".
- **Oklahoma:** On January 15th, Representative Cody Maynard introduced the Strategic Bitcoin Reserve Act, enabling Oklahoma's state savings accounts and pension funds to invest in Bitcoin and other cryptocurrencies.
- **Texas:** Also on January 15th, Texas Senator Charles Schwertner filed SB 778, which would formally establish a Strategic Bitcoin Reserve. The bill emphasizes the secure storage of Bitcoin as a state asset and restricts the sale or transfer of Bitcoin without legislative approval or in emergencies.

- **Massachusetts:** On January 17th, Senator Peter Durant introduced Bill SD.422, calling for a ‘Commonwealth Bitcoin Strategic Reserve’. Notably, this makes Massachusetts the first “deep blue” state to make such a proposal, underscoring crypto’s historical record for bipartisan support.
- **Utah:** On January 20th, it was announced that Utah State Representative Jordan Teuscher introduced the ‘Blockchain and Digital Innovation Amendments’ bill. This bill would give the state treasurer the authority to invest up to **10%** of public funds in qualifying digital assets such as Bitcoin and stablecoins.
- **Rumble:** On January 20th, Rumble CEO Chris Pavlovski announced that the company had made its first purchase of Bitcoin for its treasury strategy, stating, “It [the BTC purchase] won’t be the last.”

Bitcoin Miners

Ticker	Fundamentals						Categories		
	30d BTC β	360d BTC β	30d β - 360d β	30d Ann. Vol.	Price / Book	Debt / Assets	BTC Pure-Play	AI/HPC Pivot	BTC HOLDER
CLSK	2.19	1.27	0.92	82%	1.9	3.4	X		X
MARA	2.03	1.09	0.94	87%	2.6	16.4	X		X
HUT	2.05	1.02	1.03	108%	3.8	79.6		X	X
BTC	1.00	1.00	0.00	45%	n/a	n/a			
CIFR	2.86	0.90	1.95	115%	3.6	3.9		X	
HIVE	2.88	0.82	2.06	71%	1.3	9.4		X	X
RIOT*	2.36	0.81	1.55	104%	1.6	1.2	X		X
BTDR	2.22	0.77	1.46	45%	6.3	14.5		X	
BTBT	3.49	0.72	2.77	135%	3.0	5.0		X	
BITF	1.91	0.60	1.31	87%	1.9	5.2		X	
CORZ	2.05	0.57	1.48	67%	n/a	121.5		X	
IREN	1.61	0.56	1.05	89%	2.3	0.1		X	
WULF	2.70	0.29	2.41	124%	8.3	32.9		X	

Beta, Vol, and Returns calculated from Bloomberg and FactSet data as of 1.10.2025

Price / Book and Debt / Assets from Bloomberg as of 1.13.2025

* As of 1.21.2025, RIOT has signaled a potentially significant 600 MW AI/HPC pivot at its Corsicana Facility, which is not reflected in this analysis.

Ticker	Returns				Bitcoin Exposure			
	1M Returns (%)	3M Returns (%)	6M Returns (%)	1Y Returns* (%)	# BTC Held	Enterprise Value (\$)	Est. Treas Valu	
CLSK	-24	14	-35	-1	10,097	2,350,000,000	928,924	
MARA	-23	20	-3	-28	44,893	6,540,000,000	4,130,156	
HUT	-14	116	59	104	10,171	2,460,000,000	935,732	
CIFR	-21	33	10	28	1,344	1,730,000,000	123,648	

RIOT	7	55	31	-23	17,722	3,610,000,000	1,630,424
IREN	-28	43	-19	63	-	2,260,000,000	
BTC	-2	57	64	103	n/a	n/a	
BTDR	-3	166	68	140	594	3,440,000,000	54,648
WULF	-24	40	13	160	15	2,070,000,000	1,380
BTBT	-3	167	68	140	742	432,620,000	68,273
BITF	-21	-7	-32	-44	934	639,610,000	85,928
HIVE	-23	9	0	-25	2,805	387,730,000	258,060
CORZ	-12	16	42	302	21	4,240,000,000	1,933

BTC Held & EV from Bitcoin Treasuries & Yahoo Finance as of 1.13.2025

* CORZ's 1Y performance calculated from 1/25/2024

Sources: FactSet, Bloomberg, Bitcoin Treasuries, Yahoo Finance as of 01/13/2025. Not intended as a recommendation to buy or sell any securities mentioned herein. **Past performance is no guarantee of future results. Please see important disclosures regarding hypothetical performance at the end of this blog.**

Our confidence in 'digital transformation' assets continues to grow, driven by the synergies between AI, cryptocurrency, and energy infrastructure. As a result, we are deepening our research into Bitcoin mining and data centers, with plans to increase our investments in this space over the coming quarters. The outlook is strong, with JPM describing data centers as "the most ferocious investment inflection in decades." JPM projects a **25%** Compound Annual Growth Rate (CAGR) in total data center MW additions from 2023 to 2026 and estimates hyperscalers will spend **\$237 billion** on data center CapEx in 2025, a **27%** year-over-year increase. Given Bitcoin miners' expertise in converting electricity into computational power within specialized data centers, we reiterate our view that they are well-positioned to benefit from this trend by continuing to repurpose & energy capacity from Bitcoin mining to AI/high-performance computing (HPC) compute.

To instruct our data-driven approach to the sector, we calculated the Bitcoin beta for each miner over the past 30 and 360 days, reflecting their stock prices' sensitivities to Bitcoin's price changes. Based on our categorization of the sector, high-beta miners, such as Cleanspark and Marathon Digital, tend to be BTC pure-plays (miners who have not signaled an AI/HPC pivot) and 'HOLDers' (miners whose BTC holdings comprise **20%+** of their enterprise value), as their revenues are closely

tied to Bitcoin's market value. On the other end of the BTC beta spectrum, miners like CORZ have invested heavily in providing AI/HPC infrastructure to capitalize on AI's growing energy demand, reducing their exposure to BTC price fluctuations. Due to their substantial Bitcoin treasuries, outliers like HUT and HIVE maintain higher BTC betas despite significant investments in GPU-as-a-Service initiatives, taking on hybrid Pivoter/HOLDER strategies. Similarly, despite being late in signaling an AI/HPC pivot, Bitfarms has shown relatively low sensitivity to Bitcoin prices. We believe the market may be overlooking BITF due to its smaller scale than other pure-play miners, limited BTC treasury, and lack of a clear AI/HPC strategy. However, these factors may present an opportunity for investors who see the stock as undervalued. Our *Enterprise Value Attribution Analysis* (see below) suggests that both BITF's and HIVE's AI/HPC potential remain almost entirely ignored in their current market valuations.

Bitcoin Mining Stock Performance Averages by Category

Time Horizon	BTC Pure Plays (%)	Pivoters* (%)	HOLDers (%)	BTC (%)
1M	-15.2	-19.2	-16.3	-5.3
3M	18.0	52.6	31.5	6.7
6M	-4.6	27.9	8.9	65.1
1Y	-16.7	70.9	7.0	103.2

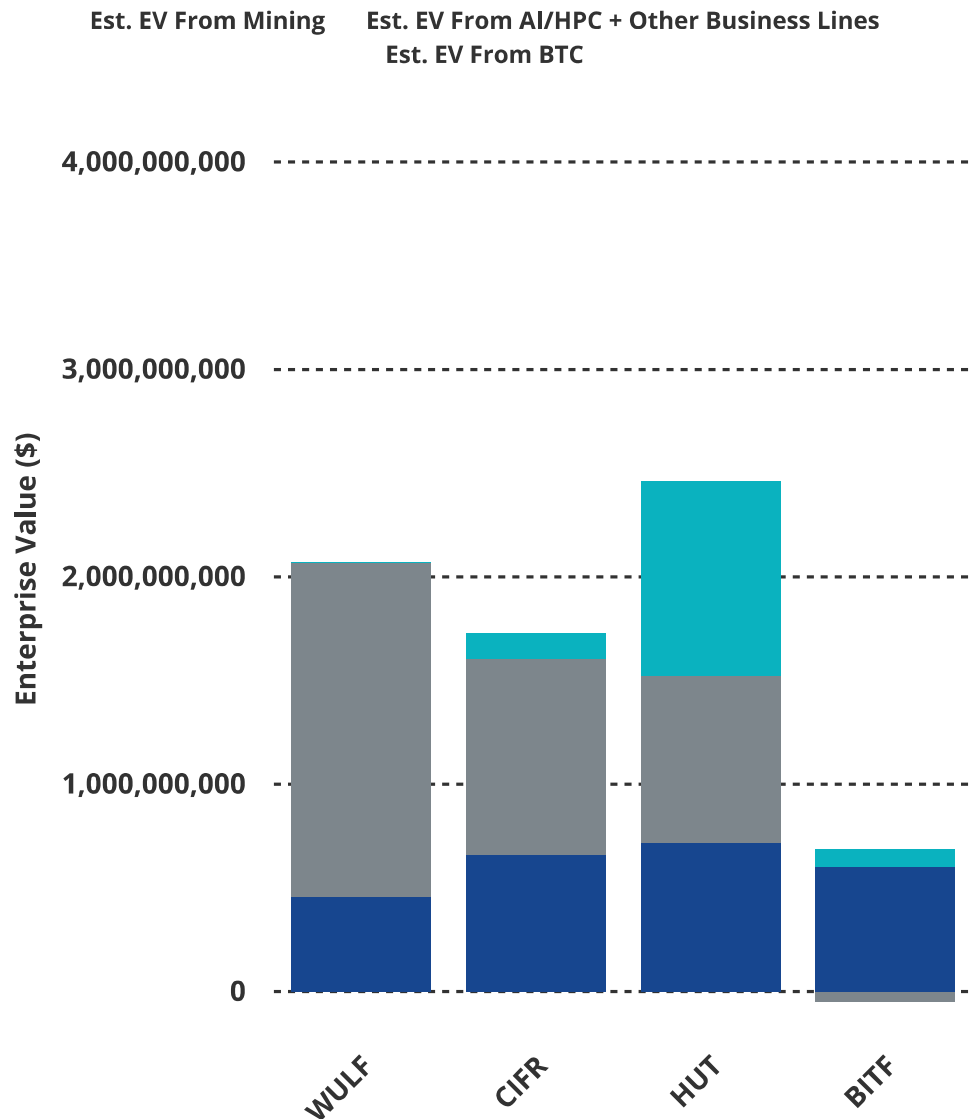
* CORZ's 1Y performance calculated from 1/25/2024

Source: FactSet, VanEck Research as of 01/10/2025. Not intended as a recommendation to buy or sell any securities mentioned herein. **Past performance is no guarantee of future results.**

Despite Bitcoin's strong 1Y performance (**+103%**), high-beta names like CLSK, MARA, and RIOT—the 'BTC Pure-Plays'—have generally underperformed lower-beta names like CORZ, WULF, BTDR, BTBT, CIFR, and HUT. We categorize these miners as 'Pivoters,' given their allocation of Bitcoin mining capacity toward AI/ high-performance computing (HPC) workloads. However, most Pivoters are still in the early stages of AI/HPC pilot programs and feasibility studies, underscoring the speculative nature of this trend. This dynamic is reflected in this month's performance and BTC beta data: Pivoters like BTBT and WULF showed

the largest increases in 30-day BTC beta versus 360-day BTC beta (+2.77 and +2.41, respectively), while pure-plays like CLSK and MARA exhibited the smallest changes (+0.92 and +0.94, respectively). These findings suggest that while the market is gradually pricing the potential long-term upside for AI/HPC Pivoters, their sensitivity to Bitcoin’s downside remains significant, as most of their anticipated AI/HPC revenues are not yet realized. In other words, in the near term, they will still be primarily involved in the mining of Bitcoin.

After Standardizing For Bitcoin Mining (EH/s) Valuations, Market Expectations for AI/HPC Contribution Are Highest For CORZ & BTDR, Lowest For BITF & HIVE



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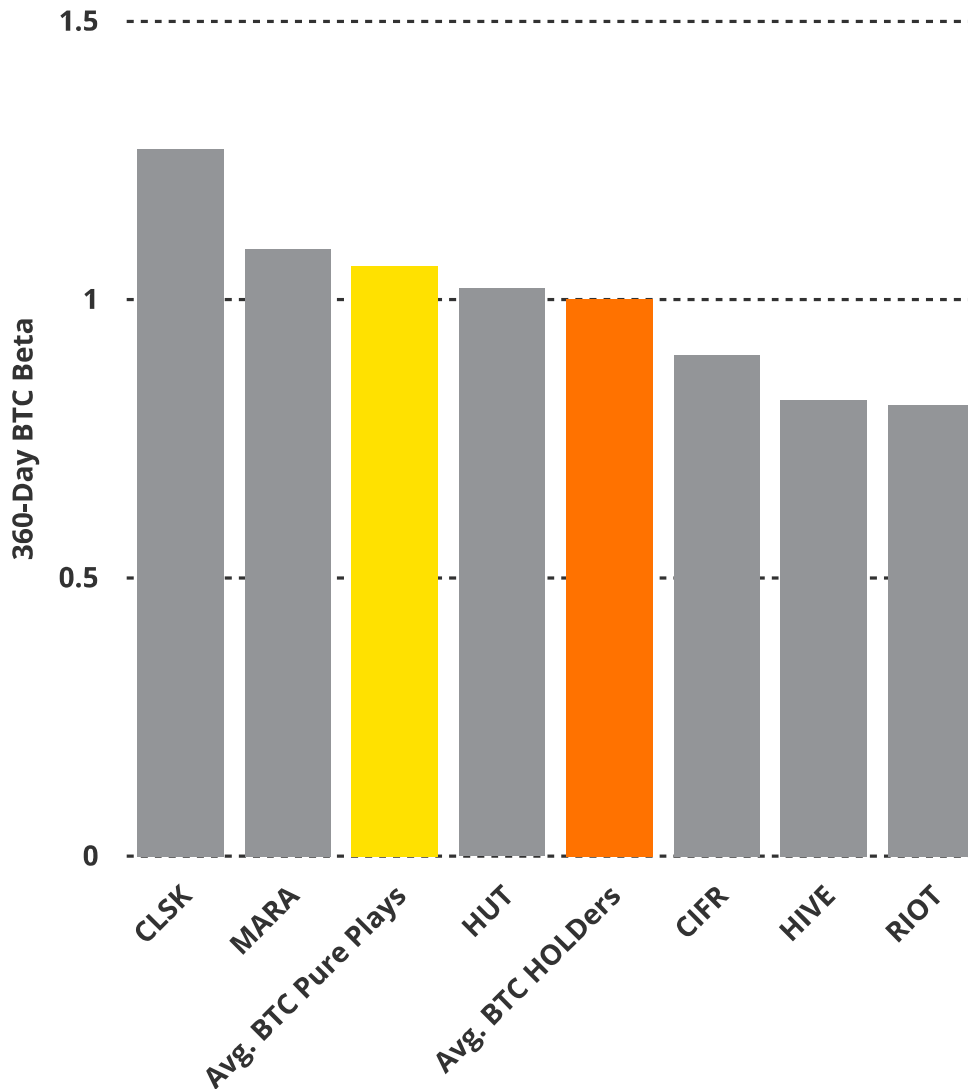
We performed an *Enterprise Value (EV) Attribution Analysis* to understand better how the market values each miner's AI/HPC efforts. This analysis aims to isolate the enterprise value contributed by each miners' Bitcoin holdings, mining capacity, and AI/HPC pivot. First, we subtracted the market value of Bitcoin holdings from each miner's total EV. Using December production reports, we estimated each miner's operational Bitcoin mining capacity (exahash per second, or "EH/s"). Next, we calculated a standardized EV per EH/s of **~\$54.2M** by averaging data from three major pure-play miners—Marathon Digital (MARA), Riot Platforms (RIOT), and CleanSpark (CLSK)—after excluding the value of their Bitcoin holdings. We applied this standardized EV/EH/s figure to each miner's operational hashrate to estimate the EV attributable to their Bitcoin mining operations. After accounting for Bitcoin holdings and mining capacity, the remaining EV gives us the implied enterprise value for their remaining efforts, primarily in AI/HPC. In the case of BTDR, however, this approach likely overestimates EV from AI/HPC by omitting an EV carveout specific to their growing 'SEALMINER' ASIC business.

While we believe that averaging the leading pure-play Bitcoin miners (MARA, RIOT, and CLSK) provides a reliable benchmark EV/EH/s that reflects priced-in growth trajectories, this analysis does not account for the unique growth, profitability, or risk profiles of individual miners, nor does it assign additional value to stronger operators. Instead, it assumes that all mining stocks eventually converge to the same valuation over time. While this convergence is unlikely in the short term, the framework offers a useful starting point for evaluating AI/HPC opportunities. These opportunities currently deliver significantly higher margins compared to Bitcoin mining, where the difficulty algorithm relentlessly compresses profits through automated adjustments. Ultimately, we think Bitcoin mining's compressed margins could lead to the commoditization of electricity used for Bitcoin mining, forcing all miners to become multi-purpose energy infrastructure businesses like pivoters. While this may sound bearish, we interpret pivoters' early success as validation of Bitcoin's unique ability to provide free-market, geographically agnostic subsidy for any energy-intensive enterprise, such as remote sustainable

energy production, electrical grid management, and industrial production.

Examining HIVE and BITF through this standardized EV/EH/s framework suggests that both miners' valuations are cheap relative to their peers. According to research from Bernstein, CIFR and HIVE lead in Bitcoin mining efficiency at **~17 BTC/EH**, followed closely by CLSK, IREN, BTDR, MARA, and RIOT. While BITF's efficiency trails these miners modestly at **~16 BTC/EH**, we do not think it is enough to justify applying a lower enough EV/EH/s multiple to offset the negative EV of their AI/HPC potential implied by our analysis. Given their **1.6 GW** of multi-year development pipeline capacity, **1,075 MW** of which is in the coveted PJM market with strong AI/HPC properties, we think BITF is well-positioned to strike an AI/HPC deal in the coming years.

Bitcoin Miners' Beta to Bitcoin Varies Widely By Strategy



Sources: Bloomberg, FactSet, VanEck Research as of 01/13/2025. **Past performance is no guarantee of future results.**

Building on our EV analysis, visualizing 360-day Bitcoin beta data provides further insight into how miners' AI/HPC pivots are reshaping their sensitivity to Bitcoin prices. On average, AI/HPC pivoters have less Bitcoin beta (**0.69**) than Bitcoin pure-plays (**1.06**) and Bitcoin HOLDERS (**1.00**). As both Pivoters and HOLDERS, HUT and HIVE combine elements of Bitcoin pure-plays and data center pure-plays. Thanks to their industry-leading AI/HPC partnership with CoreWeave, CORZ's 360-day Bitcoin beta closely resembles that of typical pure-play data centers, which we have averaged from a blend of companies including Hyperscale Data, Digital Realty, and Equinix.

WULF exhibits BTC beta even lower than the average Data Center in our data set, reflecting the significant implied EV contributed by its AI/HPC business and its aggressive pivot toward AI/HPC workloads. This shift is exemplified by WULF's recently announced partnership to provide **70 MW** of turn-key data center infrastructure for Core42's GPU clusters at its Lake Mariner site, which is the second-largest Bitcoin miner-to-AI/HPC deal after CORZ's agreement with CoreWeave. In contrast, BTDR's higher beta likely stems from its sizable Bitcoin mining operations and its unique position as a vertically integrated chip producer, supported by its growing SEALMINER ASIC business line. However, as BTDR has made early progress in identifying AI/HPC sites through TLM Group's feasibility studies, we anticipate its BTC beta to decline over time as a potentially large-scale AI/HPC pivoter. More broadly, we anticipate the universe of publicly traded miners will continue differentiating their businesses through a combination of Bitcoin mining scale, AI/HPC pivots, and additional strategies such as BTC treasuries and ASIC production. This differentiation will increasingly stratify their exposure to BTC prices, carrying significant implications for investors seeking diversified exposure to the asset class across price cycles.

Bitcoin Monthly Dashboard

As of January 20th, 2024	7-day avg	30-day change ¹ (%)	365-day change (%)	Last 7-days percentile vs all-time history (%)
Bitcoin Price	\$ 101,298	0	141	100
Daily Active Addresses	797,416	-6	-2	71
Daily New Addresses	341,121	-3	-20	62
Daily Transactions	372,167	-7	-24	90
Daily Inscriptions	65,424	-8	-66	49
Total Transfer Volume (USD)	\$ 85,570,894,091	7	136	92
% Supply Active, last 180 days	25%	11	48	40
% Supply Dormant for 3+ Years	45%	-1	3	95
Avg Fees (USD)	\$ 2.17	-37	-75	75
Avg Fees (BTC)	0.00002	-38	-90	10

Percent of BTC Addresses in profit	98%	0	20	92
Unrealized profit/loss ratio	0.59	-3	24	82
Global Power Consumption (TWh)	152	1	51	100
Total Daily BTC Miner Revenues (USD)	\$ 46,157,777	-2	19	94
Total Crypto Equities' Market Cap* (USD) (MM)	\$ 224,766	-5	166	94
Transfer volume from Miners to Exchanges (USD)	\$ 5,607,255	-46	-14	89
Bitcoin Dominance	57%	0	14	80
Bitcoin Futures Annualized Basis	13%	-11	31	78
Mining Difficulty (T)	110	6	53	100

* DAPP market cap as a proxy, as of Jan 20th, 2024

¹ 30 day change & 365 day change are relative to the 7-day avg, not absolute

Regional Trading	MoM Change (%)	YoY Change (%)
Asia Hours Price Change MoM (\$)	-1	4
US hours Price Change MoM (\$)	-1	4
EU hours Price Change MoM (\$)	0	5

Source: Glassnode, VanEck research as of 1/20/25. **Past performance is no guarantee of future results.**

Bitcoin's Network Activity, Adoption, and Fees

Daily transactions: With daily transactions numbering a 7-day average of **~372K (-7% MoM)**, the trend of fewer transactions being offset by larger payloads (transaction volumes) continued this month. We think the **-24% YoY** decline in onchain transaction count is due to increased usage of custodial solutions like centralized exchanges and wrapped BTC, which enable users to make BTC-denominated transactions with fewer transactions on Bitcoin's L1 blockchain.

Ordinals inscriptions: Ordinals transactions incurred a modest **(-8%)** decline this month, retaining most of December's growth after the

Bitcoin NFT asset class flatlined from May – November last year.

Total transfer volume: Bitcoin blockchain transfer volumes grew **7%** month-over-month, with the 7-day moving average reaching **~\$85.6B**. This is in the 92nd percentile of all-time readings and just below this market cycle's peak of **\$93.4B** in November. However, it remains significantly lower than the second half of 2021, when 7-day averages often exceeded **\$100B** and occasionally surpassed **\$300B** between September and November. We believe this indicates that the market has not yet reached the euphoric levels of onchain activity typically associated with a market cycle peak.

Transaction fees: Average transaction fees declined **~38%** month over month in both USD and BTC terms, extending a significant year-over-year decrease. This decline follows January 2024's heightened Ordinals and Inscriptions activity—Bitcoin's equivalent of NFTs—which temporarily drove fees higher.

Bitcoin Market Health and Profitability

Percent of addresses in profit: With Bitcoin prices once again trading at all-time highs, **~98%** of all Bitcoin addresses are currently profitable.

Bitcoin Dominance: Bitcoin dominance is flat month over month, curtailing last month's altcoin season momentum amid risk-off sentiment. If the market breaks to the upside after digesting Trump's volatile inauguration weekend, we expect dominance to decline and altcoin season to resume.

Net unrealized profit/loss: Net Unrealized Profit/Loss (NUPL) is at **0.59**, down **3%** MoM. This decline indicates that some traders have taken profits recently. However, this level is relatively neutral for a bull market, suggesting that this month's cooling-off phase has primed BTC for its next significant move.

Bitcoin Miners & Total Crypto Equities' Market Cap

Total Daily BTC Miner Revenues: Down just **2%** MoM, mining revenues have held onto most of last month's **20%** growth despite a 6% increase

in mining difficulty and declining transaction fees. This resilience reflects Bitcoin price growth and miners' fleet upgrades.

Transfer Volume from Miners to Exchanges: As transfers to exchanges have dropped **46% MoM**, it appears that miners are stockpiling their newly mined coins, paralleling the growth in corporate and state Bitcoin reserves. We believe this indicates that miners have a bullish sentiment as we head into Trump's first 100 days.

Total Crypto Equities' Market Cap: The total market cap for crypto equities has fallen **5% MoM** since last month's all-time highs. Due to the new administration's generally positive and deregulatory stances towards blockchain, energy, and AI, we believe this category will likely continue its strong performance. However, we remain cautious of crypto equities' downside exposure to a broader crypto market cycle top.

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Digital asset prices are highly volatile, and the value of digital assets, and Web3 companies, can rise or fall dramatically and quickly. If their value goes down, there's no guarantee that it will rise again. As a result, there is a significant risk of loss of your entire principal investment.

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