Bridging the Bitcoin Holder Knowledge Gap

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Introduction

Bitcoin is a unique and novel asset that can facilitate peer to peer electronic transactions without intermediaries. It is grounded in open source technology, economics, psychology, cypherpunk ethos and boasts a vigorous distributed and wide ranging community. Many compare Bitcoin to digital gold and see it as an asset that is maturing into a store of value. While the asset may be maturing, disclosure around it is not keeping pace. Nearly 15 years into its availability, uniform disclosure relevant to this asset does not exist. Further, Bitcoin's unique and unconventional nature challenges current norms which means it does not fit neatly within the existing definitions of financial assets and their disclosure rules.

WIth the accelerated interest in Bitcoin through the recently approved Bitcoin ETFs (Exchange-Traded Funds), voluntary disclosure beyond what is required for the BitcoinETFS and education are under the microscope and crucial to get right. For some perspective, Wall Street and Main Street like this asset to the tune of many billions, and if you compare Bitcoin and gold ETFs, it took 7 weeks for BlackRock's IBIT to reach the $10 billion asset level while it took the physically backed gold ETF, GLD, about 2 years to reach this amount.

It is fair to ask, does the holder understand what they are buying? Maybe not. While the asset is transparent because one can see all transactions continuously verified transaction by transaction as they occur on chain, this information is not enough, nor is it easily consumable. Why? Onchain information goes only so far and is generally best understood by the technically savvy. Relevant items about Bitcoin also include off chain information about network health, protocol changes, security, and how the user community governs itself.

US Regulators have been overly consumed with classifying Bitcoin. Spoiler: they consider it to be a commodity which can be packaged and offered as a security (i.e. BitcoinETF). The CFTC which regulates commodity futures and derivatives took a "do no harm" approach. By contrast, the SEC who oversees Bitcoin ETFs adopted a restrictive ad hoc enforcement oriented approach toward Bitcoin (and all cryptocurrencies, but they are not the subject of this Note). By not engaging in transparent rule-making, the SEC harms their ability to meet their fair markets and investor protection goals. Specifically, they denied the existence of this asset class, rejecting potential spot BitcoinETF offerings for over a decade. Their path led to a court judgment that forced their hand to approve a specific Bitcoin ETF application in 2023, thus setting a precedent that enabled the debut of 11 BitcoinETFs in January 2024.

The recent launch of Bitcoin ETFs, though a potential positive development, exposes limitations in the SEC's regulatory approach. The asset framework appears hastily adapted from existing

securities laws, creating a “square peg forced into a round hole” situation. This raises concerns about why the SEC was so unprepared to support the unique nature of Bitcoin as an asset class in a fit for purpose set of rules - they certainly knew about Bitcoin’s characteristics and market performance since they had litigated against the BitcoinETF approval for so many years. Since the SEC used current regulation, disclosure of significant relevant information about Bitcoin’s unique nature is not required - largely because the laws do not contemplate the type of relevant information that exists about Bitcoin. Both holders and issuers are vulnerable to risks due to this information gap.

The US needs a fit for purpose regulatory regime, and needs to act soon. Unlike the US, many global regulators took different approaches. They define Bitcoin and other cryptocurrencies as entirely new asset types and provide fit for purpose regulatory regimes. While the US has different regulators overseeing different aspects of cryptocurrencies and many are well intentioned, they ALL dropped the ball on meaningful disclosure for digital assets overall and BitcoinETFs in particular. Their failure to act injected more risk into the marketplace.

To be clear, Wall Street has provided the legally required disclosure for its BitcoinETF offerings. But this disclosure is inadequate for this type of asset. Spectacularly and importantly, because the BitcoinETFs were approved under the ‘33 Act, **disclosure need not be sent to the end holder on an ongoing basis.** While this potentially makes sense for traditional commodities like Gold that do not change, it does not make sense for Bitcoin which dynamically changes as its ecosystem grows and matures. Risk is introduced by failing to provide holders with updates related to the protocol, governance, and material-like events that occur in the Bitcoin ecosystem. Simply put, holders do not have enough relevant information to make smart decisions.

As a TV infomercial says, ”but wait, there’s more”. Risk extends beyond individual holders to the asset issuers themselves. All is fine when the value goes up. But if/when the reverse happens and holders are dissatisfied, firms are vulnerable and litigators are ecstatic. Critically, firms can mitigate this risk by collaborating and providing fit for purpose disclosure, even without the designation of Bitcoin as part of a new asset class. **Coordinated self-regulation valued by regulators that focuses on education disclosing factors particular to Bitcoin while respecting its decentralized nature, community, and governance would be a perfect fit.**

Bitcoin is Unique: History and Overview

To understand Bitcoin’s uniqueness and to understand the asset, it is necessary to look at its history and the nature of information available about transactions. Bitcoin debuted in 2008 with disruptive intent as a protest against central banking and the 2008 financial crisis; and the author(s) of its whitepaper “Bitcoin: A Peer-to-Peer Electronic Cash System” (Satoshi Nakamoto) remains anonymous and shrouded in mystery. It is non-sovereign backed internet money that lives on a global blockchain and transfers value at the speed of the internet via an always on network. Transactions are effected without intermediaries which makes Bitcoin controversial to, well, intermediaries including some governments who have a mercurial love/hate relationship with it.

Bitcoin has a hard cap of 21 million and is permissionless, uncensorable, and trustless in nature. We trust that the protocol will work as disclosed, transactions can never be double spent, and all can view on chain activity to hold the ecosystem accountable. The right to digitally assemble and participate is built into the DNA of the network which is open and available to anyone with an internet connection.

Bitcoin's Uniqueness Demands a Fit For Purpose Disclosure Regime

Imagine Bitcoin like a giant public piggy bank with millions of anonymous drawers. Anyone can add or remove coins (Bitcoins) anonymously through unique codes (wallet addresses). All transactions are visible on the public ledger (blockchain) which shows the movement of coins in real time, not who owns them. This anonymizes transactions, and is part of what makes Bitcoin unique. While pseudonymous, advanced analyses might link activity to individuals or groups upon proper legal justification.

The banking and equities systems are structurally and philosophically different. They are more similar to a centralized secure vault with numbered safety deposit boxes accessed by an account and identification. Transactions are generally private, secure, and protected by regulations. These differences are why most track Bitcoin through activity, and banking funds and equities through accounts. And, it's why bank and equity disclosure regimes do not exactly fit for Bitcoin which is better suited to activity rather than account tracking.

Further, the very feature of pseudonymity has scared many regulators and elected officials. Given the BitcoinETF products and other global movements, Bitcoin is actively in the traditional financial services ecosystem. Those with concerns need to stop fighting against the asset and work with the community to recognize and establish tailored rules and disclosure that protects holders while facilitating innovation. In doing so they not only provide a safer market, but provide a path traditional markets can follow as they look down the road to tokenize existing assets and engage with other types of cryptocurrencies and native digital assets.

Bitcoin is Novel

Bitcoins are created through a process called mining which employs a consensus tool known as Proof of Work (PoW)[1]. Bitcoins can also be acquired post mining through cryptocurrency

[1] Think of Bitcoin as a giant digital global public record book of all transactions within a gated community. The Proof-of-Work consensus mechanism is the tool used to verify transactions and provide security for the community. The end result is a highly secure network. Literally, "work" is contributed to keep the network secure.From a more technical point of view, miners use specialized computers to compete to find a valid hash for a block containing verified transactions. The first miner to find a valid hash gets to add the block to the blockchain and is rewarded with newly created Bitcoin. This process validates the transactions within the block and secures the Bitcoin network. It's designed to achieve agreement on which transactions are valid in a decentralized way, without a central authority coordinating or validating the results.

exchanges. To understand how the Bitcoin consensus mechanism functions, imagine that miners are trying to find a specific math combination to unlock a treasure chest**.** Their different computers are working on this problem, and whoever finds the combination first gets to add a block of verified transactions to the Bitcoin blockchain and claim the reward (Bitcoin). **This makes the entire record incredibly secure**. Everyone can see the transaction details on the blockchain, and it's nearly impossible to change them later. Why is that information secure? Because these blocks holding transactions are linked together, and in order to change them and rewrite history, the next miner in line would have to go back to the beginning of the chain and redo it - a massive amount of work which requires a very large amount of resources. Any record tampering requires immense computational power and this alone discourages anyone from trying, keeping the chain and transactions honest and secure. With this process, because everyone can see the chain activity, voluminous amounts of unique data points about all Bitcoin transactions are available to all on chain in real time.

Within Bitcoins' decentralized network are rules and functionalities dictated by the underlying code and enforced through a consensus mechanism, not a legal system. Understanding consensus is crucial. It is part of due diligence as it directly affects the network's functionality and reliability. A holder should factor in this knowledge when evaluating whether he likes the protocol and network, the products offered on it and whether he trusts the protocol and network to do what it claims to do. A holder seeking a highly secure asset might prioritize a PoW network model like Bitcoin while a holder who wants to participate by voting may choose a Proof of Stake (PoS) network model like Ethereum[2].

There are safeguards and incentives built in to secure the Bitcoin network, prevent collusion and fraud, and encourage competition. In this system, miners play a crucial role but are just one part of a larger user community. The community consists of miners, developers, and users who might be merchants, traders, holders, and nonprofits. All have a voice. Any changes to this protocol require approval from a majority of users, fostering a community-driven governance approach. Approval is indicated not by voting, but by the majority of miners incorporating the change into their compute/mining process.[3] The Bitcoin protocol's continued evolution and

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Miners are incentivized to play by the rules because they are rewarded for adding valid blocks. This makes it very difficult for anyone to tamper with the Bitcoin ledger or spend the same Bitcoin twice.

[2] Proof-of-Stake (PoS) is a consensus mechanism for Etherium and other cryptocurrency networks other than BItcoin. It relies on validators who have a stake in the network by holding the cryptocurrency itself. More staked coins generally means a higher chance to be chosen to validate the next block and earn rewards. PoS may incorporate voting which enables staked coin holders a say in the network's future such as upgrades or protocol changes.

[3] Bitcoin is software. One example of a Bitcoin network change occurred several years ago. A contentious discussion known as "Block Wars" raged within the community from 2017-19 about transaction speed (scaling) and network security. The community could not agree on a way forward so the network split or hard forked into two different networks hosting two different assets. All Bitcoin holders were impacted and awarded an amount of the newly created additional asset on the "forked" blockchain (Bitcoin SV) in an amount equal to their amount of Bitcoin while retaining their original Bitcoin.

resilience in the face of internet threats is a testament to its ingenious blend of software, economics, and human collaboration. Its always on decentralized nature is further underscored by the fact that one can see a live map of the reachable nodes (computers) in the Bitcoin network. These nodes are constantly being crawled by the Bitnodes crawler, driving home the point that the network continues to function and grow regardless of what governments do.

Bitcoin on Wall Street

The SEC approval of 11 Bitcoin ETFs, funds that buy and hold Bitcoin as their underlying asset, was a defining moment for Bitcoin and for the larger digital asset landscape because it signaled that a new legitimate asset class is available for the traditional financial world to consider. The ETFs success has been undeniable. They have seen significant investment in their first several months, and show no signs of slowing demand.

This integration with traditional finance, however, has sparked debate. Putting financial intermediaries and Bitcoin in the same sentence, let alone the same marketplace and ecosystem elicits strong views. Some wonder whether governments are indirectly trying to control Bitcoin. Others welcome the broadened choice for any holder with a brokerage account (ironically run by an intermediary) to gain exposure to the asset.

What Type of Information do Holders Crave?

A recent Broadridge crypto user survey that looked at many types of cryptocurrencies, not just Bitcoin, noted holders are concerned about the following in order of importance: risks and security, financial overview, management, governance, crypto token description, network/platform activity, perspective of core team or governing body, tokenomics, and major holders. Consider that tokens are liquid assets. Yet, holders ranked tokenization as one of the least important items. There is a mismatch in understanding what drives the asset and a strong need for education. For instance, holders might want to consider the token liquid supply, total supply, outstanding supply, consensus methodology, total asset value locked, inflation and deflation models. Once holders know to ask for this information, they will want it.

The Broadridge survey also asked holders where they found their information and how often they sought it. Crypto websites and exchanges were the most consulted sources for information about networks and tokenomics while information about more traditional factors was sourced from crypto websites and brokers. Many holders prefer monthly or quarterly information and **NO ONE** ranked receiving information about the network changes as they occur as a high priority. This is quite shocking because the network architecture, in a sense, dictates how the asset functions which likely impacts the potential value of the asset.

Finally, Broadridge concluded; “[T]here is a substantial lack of or misunderstanding regarding this investment category. Easy-to-find, easy-to-understand educational materials would begin to fill the gap in this concerning investment information vacuum.” As Rob Krugman, Chief Digital Officer of Broadridge said, "While the market waits for regulators to define specific rules, the private

market needs to proactively begin to define standards and taxonomies to collect and provide information for Bitcoin and beyond. Without such information intermediaries are creating risks as holders can argue they did not have access to appropriate information to make smart decisions."

Bitcoin Disclosure

The Broadridge survey is provocative. It raises many questions about the state of information a holder has and their understanding of what drives asset value. The survey also gives us insight into some of the information holders do and would value. From a Wall Street perspective, the survey exposes a significant gap in current disclosure practices. Where is information about governance, network security, tokenomics, developer activity, and the community readily available? These and other factors are not uniformly disclosed to potential holders. Adding to the challenge is much of the relevant information for a holder such as network details, regulatory regimes, the evolving nature of the asset, and technical complexities, may not be understandable, is unevenly available, or simply not accessible in a clear and concise way.

Theoretically, the on chain nature of Bitcoin transactions offers the potential for state-of-the-art disclosure. Real-time transaction information is accessible, but the reality is that the information is very technical and not geared to the non-technical holder. Further, much of the relevant information is available off chain, requiring the holder to review governance forums, evaluate market news, and media to gain awareness of material-like activity. Adding further to the confusion is the heavily used jargon. It is an understatement to say that newer participants might find this landscape confusing and overwhelming.

Traditional financial parties offering Bitcoin also face risks due to the lack of clear disclosure which has injected more risk into the system. Inconsistent, hard-to-understand, and asymmetric information is fertile ground for lawsuits, and no financial services provider wants to be exposed to that risk.

The current situation with Bitcoin ETFs, in some ways, resembles the cryptosphere concept of DYOR (Do Your Own Research),[4] largely because of regulatory gross missteps and legislative inaction. Bills have been proposed to establish clear systems, but none have been enacted. The Bitcoin community including Wall Street has a groundbreaking and golden opportunity to decide on standards, relevant disclosure practices, and a clear distribution process. They can and should quickly and proactively step in to de-risk the environment.

Regulators and elected officials should also be open to new approaches when it comes to Bitcoin and other digital assets. Traditional KYC/AML (Know Your Customer and Anti-Money Laundering) regimes based on account-based disclosure may not work the same way for Bitcoin.The ability to leverage artificial intelligence and machine learning to track activity, and

[4] DYOR research means potential holders actively seek out information and engage in critical thinking about participation without benefit of industry or regulator approved standards for what is to be disclosed. By contrast, Wall Street issuers must provide standard legally mandated disclosure that the market relies on.

require identity to move forward only if anomalies are detected, might provide for a more secure financial system[5]. Below is a chart comparing activity and account-based disclosure.

Activity v Account Based Disclosure

Feature	Activity Based Tracking	Account Based Disclosure
Focus	Tracks network and user activity without the need to identify individual users	Tracks activity linked to specific user accounts and identifies users
Data Tracked	Transaction details, mining data, wallet behavior, developer activity, social media activity	User identity, transaction history, account balances, KYC/AML data
Benefits	Insights into network health, security, adoption, sentiment, fraud detection	Enables targeted services, fraud detection, facilitates regulatory compliance
Concerns	Privacy violations, misuse for profiling, manipulation, attack vulnerability	Data breaches, discriminatory behavior and censoring, limited insights into network behavior and health
Anonymity	Pseudonymous, focuses on aggregated data, trends, and patterns	User identification required, activity linked to specific accounts
Transparency	High transparency into network, individual behavior takes more steps to track and can be obscured	Discloses specific user activity, lacks insight into network activity
Regulation	Evolving and uncertain landscape	Subject to existing regulations such as KYC/AML and data privacy

Bitcoin's classification as a commodity in the US provides a starting point for understanding it, but this approach has limits when compared to traditional commodities. For example, precious metals are tangible assets with disclosure of physical characteristics and storage security. Bitcoin is a digital asset with novel characteristics to be disclosed. The chart below compares features of general commodities and Bitcoin.

SIde by Side Disclosure of Commodities and Bitcoin

[5] Account information can be ignored and bad actors can be served in the current system as is what happened with Jeffrey Epstein and some banks.

Feature	Commodities	Bitcoin
Supply & Demand	Tracked through production, storage, consumption	Tracked through limited supply (21 million), mining activity, user adoption
Market Sentiment	Tracked through news, social media, trading activity	Tracked through online discussions, media coverage, user behavior
Technical Analysis	Price charts, technical indicators	Price charts, technical indicators, network data (e.g., mining difficulty)
Intrinsic Value	Based on physical properties and uses	Primarily driven by perception and speculation
Centralization vs. Decentralization	Centralized exchanges	Decentralized network, harder to manipulate
Data Availability	Mainly price and trading data	Price data, network data (mining activity, transactions, community), user behavior data
Holder decisions	Patterns can inform buy/sell decisions	Patterns can inform buy/sell decisions, but volatility requires caution
Risk Management	Patterns can help identify price fluctuations and market events	Patterns can help identify price fluctuations, network vulnerabilities, and potential scams
Market Analysis	Patterns can reveal trends and bubbles	Patterns can reveal trends, bubbles, and opportunities, but human psychology plays a significant role
Regulation	Data helps track suspicious activity and inform policy	Data helps track illicit use and inform digital currency regulations

Bitcoin Core Concepts

Set out below are some core concepts that should be incorporated in a fit for purpose Bitcoin disclosure regime. Disclosures should emphasize network health, security, and how the user community governs itself.

Importantly, now that the traditional financial services industry has onboarded into the Bitcoin ecosystem as holders and investors (i.e..Bitwise is donating 10% of its BITB profits to support open source Bitcoin Core Development), all should proactively collaborate on disclosure while maintaining the core principles of Bitcoin: transparency, decentralization, and security. This process feels like a hard mountain to climb, but one could start to close the disclosure gap by creating a Wiki-like environment for FAQs that produces a published glossary and answers to common questions with which the community agrees. The Wiki could be a separate entity (traditional entity or distributed autonomous organization (DAO)[6] or a BORG/hybrid entity[7]) or a less formal but concentrated effort within the ecosystem. One example of a Wiki that may have the auditability that traditional financial services require when providing disclosure is ClearFi.

Fourteen Draft FAQs (not an exhaustive list)

Technical

1. What is the role of miners and how are they organized?
2. Who are the developers who maintain the protocol and what are the issues?
3. What is a halving, when are halvings scheduled, and what is their impact?
4. What is consensus and chain security?
5. What are hard and soft forks and are any proposed?
6. What are ordinals and their impact on the network and ecosystem?

Society

7. Is there an energy/sustainability issue?
8. What is the legal and regulatory status of Bitcoin?

Community

9. Who is in the community, what are their roles, and where are the forums?
10. How does governance happen?

[6] DAOs, akin to crypto guilds, are blockchain-based groups that may be structured as legal entities. However, formal legal structure is not a requirement. Governed by smart contracts, they enable programmatic and collectively-driven decision-making. These groups allow members to associate and collaborate.

[7] BORGS are a new type of entity structure debuted by Delphi Labs. Specifically," [t]he Cybernetic Organization (CybOrg or 'BORG'), is a traditional legal entity that uses autonomous technologies (such as smart contracts and AI) to augment the entity's governance and activities."

Economic

11. What is the Bitcoin supply, amount mined, and amount to mine?
12. How many whales (large wallets) are there and how active are they?
13. What finance applications (centralized and decentralized) are available?
14. What is the adoption rate (merchant, consumer, asset professional for Bitcoin?)

Draft Bitcoin Disclosure Regime

Activity	Data Tracked	Insights	Benefits	Concerns
Network Health & Mining	Hash rate, pool distribution, difficulty, reward, halving schedule (every 4 years), impact of previous halvings, next halving date (April 19, 2024, scheduled), energy usage, ordinals (data inscription), security updates, vulnerabilities and resolutions, development plans, scaling and privacy solutions, consensus model, sustainability	Network security, decentralization risks, sustainability, energy consumption, fee incentives, potential MEV (Maximal extractable value)	Assess network security, identify potential centralization risks, understand development roadmap	Malicious attacks on mining pools, environmental impact
Network and Wallet Activity/Transaction Data	Volume, value, sender, receiver, timestamps, key holders, active and dormant wallets, transaction clusters	Network usage, adoption, distribution, liquidity, whale activity, holder sentiment, potential risks	Market understanding, detect anomalies (e.g., suspicious activity)	Privacy, user targeting, surveillance
Protocol Changes	Hard forks[8] (new blockchain created), soft forks (backward compatible changes, no new chain created)	Impact on network functionality and user adoption	Promote innovation, identify potential disruptions	Misinformation, unforeseen technical challenges
Economic & Market	Adoption rate, regulatory landscape, volatility and risk modeling, liquidity,	Market sentiment, potential risks and opportunities	Inform decisions	Regulatory uncertainty, market manipulation

	tokenomics, use cases, fees, competition			
Holder Considerations	Asset custody security (wallets, exchanges), transaction and storage costs, tax implications	Holder risks and costs	Make informed decisions	Loss of access to private keys, tax complexities
Community & Governance	Level of developer activity, community involvement, communication channels	Community engagement, development roadmap, identify potential risks (e.g., vulnerabilities)	Promote innovation, identify potential issues	Misinformation, manipulation of public perception
Social Media & News	Media coverage, social media mentions	Public perception, emerging risks, market sentiment	Identify potential threats, understand broader market sentiment	Media bias, manipulation of social media

Disclosure Availability

Some of the more frequented sites with information are listed in the chart below. Could the transparency shown by some Bitcoin ETFs by a few publishing on-chain information about their holdings signal a broader cultural shift or openness?

Category	Resource	Description
Blockchain Data	Block Explorers[9]	Search transaction data and network metrics
Market Data & Education	Cryptocurrency Exchanges (Coinbase, Gemini)	Market data, Bitcoin information, educational resources, and relevant documentation
Mining Information[10]	Block Explorers & Publicly Traded Mining Companies	Data on hash rate, pool distribution, and mining difficulty
Community Discussions	Bitcoin Community Forums	Discussions about proposed changes, use cases, and events
Additional Resources	Analysts, Aggregators, Social Media, Industry Blogs, Podcasts, Newsletters, Academic Research, Bitcoin ETFs	Insights from analysts, news aggregators, social media, industry publications, and research
Bitcoin ETF[11]	Prospectus, Published fund information, and Investor Communication	Investment objective, risks, fees. expenses, underlying investment, tax implications, current holdings, performance data, news and announcements, market commentary, educational resources; some ETFs have on chain disclosure of Bitcoin and support Bitcoin open source communities
Regulatory Sites	SEC, CFTC, FinCEN, IRS, CFPB	Investment contracts and potential securities offerings, Bitcoin ETFs, Bitcoin futures and derivatives markets, trading regulations, anti manipulation rules, intermediaries guidance, anti money laundering rules (AML), tax definitions and treatment, scam risks

Conclusion

The traditional financial world has a gaping Bitcoin education gap that impacts regulators and asset holders, alike. Regulators fear the anonymous nature of Bitcoin; however, their concerns can be alleviated through innovative solutions like tracking activity and leveraging AI/machine learning to detect anomalies before requiring identification. This approach could even set an example for a more secure financial system and provide a roadmap for adopting similar relevant rules for the growing digital asset ecosystem beyond Bitcoin. The lack of clear disclosure creates vulnerability for individual holders, making them susceptible to misinformation and risky decisions. Traditional financial institutions offering Bitcoin are also exposed to potential risks and liabilities. The current disclosure landscape for Bitcoin is fragmented, with valuable information scattered across various sources that are often difficult to access or comprehend. Traditional financial institutions together with the Bitcoin community have a unique opportunity to "seize the day", collaborate, and produce meaningful disclosure consisting of clear, concise information and educational content tailored to various learning styles. Clear standards, codes of conduct, and best practices foster fair markets and safeguard holders from fraud, foster innovation and growth, and pave the way for the thriving digital asset future desired.

[9] NIST defines Bitcoin explorer sites as "A software for visualizing blocks, transactions, and blockchain network metrics (e.g., average transaction fees, hashrates, block size, block difficulty)" This data is freely available without subscription.

[10] There are many discussions and opinions about bitcoin energy use. Many note that the energy output is a highly secure network. Some believe the high energy consumption of mining is harmful. Others note that miners are using renewable energy sources, their mining rigs are becoming more energy efficient, mining can aid in power grid regulation (distribution), and can potentially capture and put methane to beneficial use. A recent study shows that by supporting cryptocurrency mining, the construction of additional green energy infrastructure could be accelerated. Interestingly, a 2023 NBER working paper by Halaburda and Yermack examined 13 publicly listed mining companies' operations and valuation and found that "owning a cryptocurrency mining unit would provide an effective hedge, or risk management tool for utilities."

[11] The Bitcoin ETFs fall under the Securities Act of 1933. Technically the BitcoinETF is offered as an Exchange Traded Product rather than an Exchange Traded Fund which would fall under the rules of the Securities Exchange Act of 1934. The offering is of Bitcoin wrapped as a security and the significance of how it is authorized is a huge disclosure miss. ETFs under the '34 Act require annual, semi-annual, and other important disclosures while the financial vehicle authorized under the "33 Act follows a more corporate like model where initial documents were filed and there are questions about what else must be provided to the SEC.