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CEX.IO COMPASS: Q4 2023

5 Thoughts for the Crypto Space in '24 and Beyond

Greetings fellow crypto enthusiasts,

Much has happened since we last had the pleasure of speaking.

For starters, CEX.IO's beloved ecosystem of crypto products celebrated 10 years of award-winning service in November 2023, a rare feat in this industry. Throughout the past decade, CEX.IO's dedicated global team worked diligently to expand access to the digital economy, and built a reputation for serving as a trusted crypto guide. Reflecting on our tenured posture within an industry that's also grown and matured reveals how this success promises a sustained victory for the digital asset space. That commiting to regulated, user-centric services ensures a welcoming atmosphere for crypto curious participants, and contributes to a more secure transacting environment. For CEX.IO to persevere and prosper in crypto's unpredictable waters is a true testament to this approach.

To that end, we wanted to return with a thoughtful reflection on the crypto ecosystem from this vantage point. When we first began our *COMPASS* report journey back in 2022, the CEX.IO Market Research Team aimed to chronicle and contextualize the trends and fluctuations impacting the space. These records crystalized industry developments, and provided topical reference for current and future traders seeking to understand this ever-evolving landscape. But between ongoing regulatory developments, rising interest from institutional investors, and shifts in public sentiment with regards to the digital economy, evaluating 2023 required a slightly different approach.

Don't be fooled by the clickbait-y title. *COMPASS Q4 2023*: *5 Thoughts for the Crypto Space in '24 and Beyond*, offers unflinching analysis after an eventful year for the industry. Backed by meticulous sourcing and clear-eyed commentary, this edition of COMPASS highlights the current discourse around key issues impacting, and impacted by, the crypto space. While those seeking on-chain or price breakdowns may feel more at home reading our newsletters or blog, this report is designed to tackle big picture problems, and offer actionable solutions through careful, measured dialogue. Like a project white paper, crypto is just as much a puzzle for the mind as it is for the market. And for this undertaking, we traverse concrete and theoretical directions to dissect the full contour of the day's most pressing issues.

For one, the developments around "AI" solutions, namely large language models and image generators, is causing upheaval and concern to ripple through the space. Presently, the global community remains divided on the opportunities and dangers such innovations could afford. Rather than speculate on hypothetical outcomes, the CEX.IO Market Research Team continued its examination of how these tools actually work relative to their media hype. By engaging with thought-leaders in the space, the Team reveals how clever branding and human foibles are stoking the AI buzz, and why participants should approach with caution.

With the past year's regulatory developments, the Team dedicates ample space to discuss new legal definitions, and what tighter controls can mean for the industry. Since the customer is the Hero at CEX.IO, we approach questions of regulations through the lens of user protections, and how to create a safer ecosystem experience. While some voices have been raised in opposition to common sense developments, there's no denying that the global climate is shifting in favor of greater oversight. For leaders, this is an opportunity to set a course that primes the industry to succeed under changing conditions.

In a similar vein, crypto's image in the public sphere also saw some reinventions last year. Several high profile accounts exploring industry lore, and documenting some of its key players topped "Best-of" and critic's choice end-of-year lists. Unfortunately, many of these accounts revealed unfavorable details, and resurfaced some of the industry's more shameful moments. Simultaneously, crypto crossed new institutional thresholds as BTC ETFs became a reality for market participants. The Team digs into this mixture of acceptance and criticism, on why certain accounts may be resonating with audiences, and how normalization by financial titans could factor in.

Closing on a somber note, the Team examines the crypto ecosystem's carbon footprint, specifically Bitcoin, and how it's continued to grow larger over time. While this is hardly news to veteran enthusiasts, the addition of more net participants is driving energy, water, and land use for crypto infrastructure to new heights. If the digital economy hopes to continue offering greater access to financial freedom, it must explore pathways toward reducing its negative impact to ensure a stable and hospitable future.

On behalf of the CEX.IO Market Research Team, we hope the following pages inspire you to dig deeper into the articles, stories, and reports that inform this analysis. Given the crypto ecosystem's unique placement in the worlds of technology, finance, and geopolitics, it can be difficult to stay informed across all sectors. As we chart the most thoughtful course in the New Year, this helpful compendium can serve to guide your crypto journey in the months ahead.

Thank you for your continued support over the past 10 years, and here's to many future successes in this exciting, unpredictable market.

Oleksandr Lutskevych
Founder and CEO, CEX.IO

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Table of contents

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Intro

Looking at the state of the world in 1929, Italian linguist and political theorist Antonio Gramsci saw upheaval roiling beneath the social fabric. Disturbed, yet hopeful at the possibilities afforded, the young luminary distilled its essence to a single phrase. “The old world is dying, and the new world struggles to be born: now is the time of monsters,” has become one of Gramsci’s most referenced observations for its ability to haunt with evergreen prescience. Nearly a century on, the merry-go-round of history has once again tilled the soil to a similar composition. Like the reverberation of prophetic phrases, it seems the perennial struggle of every generation is to overcome a set of circumstances that were long ago set in motion.

Those tracking the progress of the crypto ecosystem have likely sensed the space is at a crossroads. From the shifting regulatory landscape, to the toppling of high-profile fraudsters, to the industry’s entry into the portfolios of major asset managers, crypto is in flux. Along with the elastic nature of these times comes the responsibility to mould them into something meaningful. To have the courage to pivot course, circle back, or revisit the drawing board. There’s a lot of money to be made by solving problems, but arguably more to be lost by relying on faulty solutions. In large part, this report is about making tough decisions in light of clear-eyed analysis.

To achieve this aim, the CEX.IO Market Research Team elected to take a different approach to reporting on developments in the crypto space. Rather than digging into on-chain diagnostics and parsing value flows, the overarching questions currently facing the industry are more philosophical in their design. What’s the value of truth or art in an era of errant reproduction? Can an industry that’s devoured so many others serve to boost crypto adoption? What’s the overall vibe toward crypto by the general public? And what role should the industry play in staving off catastrophic climate change? Despite technology’s fervent attempts to sever the messiness of humanity, these are nuanced questions that require social and historical context to fully capture.

With that in mind, feel free to engage with the supplemental reports and news stories that informed this analysis. An essential component to doing one’s research is ingesting a variety of sources, and arriving at the most logical conclusion based on the information presented. The following pages were crafted through the careful synthesis of myriad resources, and have been included throughout to corroborate this account. Setting aside postmodern cynicism on the lack of objective truth, the following is the most plausible set of facts to guide the crypto industry in 2024 and beyond.

Approach "AI" with caution

Few phrases captured the cultural zeitgeist in 2023 quite like AI. From large-language models (LLMs) like ChatGPT, to image generators like Stable Diffusion, advanced programs of varying intensity gave retail consumers the reins to prompt their wildest dreams into pixelated life. Apart from seizing our collective imagination, AI became an omnipresent buzzword that seemed capable of disrupting every industry it encountered. Unsurprisingly, these developments elicited mixed reactions. Some celebrated the dawn of a new era in creativity and problem solving, while others lamented an existential threat to humanity in the making. In the latter camp, disgraced crypto wunderkind Sam Bankman-Fried and controversial billionaire Elon Musk both expressed vocal concerns of "killer AI," despite spending lavishly on the sector's development. At the beginning of 2023, the CEX.IO Market Research Team tracked the rise of popular OpenAI product, ChatGPT, and tested its faculties on basic crypto industry knowledge.

After soliciting input from the global CEX.IO community, the Market Research Team returned with a rough guide on using these tools effectively. At the time, a level of skepticism hovered over some of the more audacious claims made by companies, as media interest continued to mount. And yet, the careful wording of OpenAI employees mentioned in the Team's coverage rarely surfaced in the general discourse around these solutions. Rather, business and technology reporting largely failed to inject the journalistic rigor that one would think incumbent on such potentially societal-altering claims. Can a predictive language model really replace human creativity? And which parties stand to gain, and lose, in this scenario?

Image source: Alex Blechman, X, November 2021.

By 2023, it was clear that "AI" now stood for any program that could render a generative, amalgamated service. In the face of this growing realization, many close to the industry appeared reluctant to question the promise or capabilities spouted by AI-evangelists. It's possible the hesitancy to point out these technical details stems from the blanket embargo in technology and crypto-adjacent circles on fear, uncertainty, and doubt (FUD). Oftentimes, the expression of each is considered anathema in such spaces. However, there are very real concerns, not just in how these tools operate, but the ways they're being applied to problems that should probably be off-limits. While these are large questions to grapple with, much clarity can be gained from redefining how we discuss these tools in the news and popular culture.

Where "artificial intelligence" is a loaded term with deep roots in science fiction, predictive modeling is a much more accurate description of the processes behind how these products arrive at their outputs. On May 31, 2023, media criticism podcast *Citations Needed* hosted Dr. Lauren M.E. Goodlad, Distinguished Professor of English and Comparative Literature at Rutgers, and a faculty affiliate of the Center for Cultural Analysis and the Rutgers Center for Cognitive Science, to discuss the potential impact of "AI" on creative professions. Dr. Goodlad punctured the vacuity of industry coverage to illuminate how these innovations actually function under the hood:

> *"[T]hese are disembodied statistical models. They do not feel or think or substantively know anything, but they are trained on massive amounts of data, most of which has been scraped from the internet without any compensation or consent or knowledge of the person who generated the data. By scraping that data at massive scale, and then training a system on that data into these complex and highly parameterised models, you end up with a technology that is actually working as predictive analytics or pattern finding, but at a complex level, and looks to us like something a human might have written. So what we're essentially talking about is probabilistic mimicry. You put an input, which could be a question or a few lines of text into the interface, and the model predicts a few paragraphs that might plausibly come next. But while it's plausible, and it might provide some information, it could also be completely wrong. The models are unreliable, because language is huge, and seemingly random, what the field calls stochastic, and so they sometimes quote-unquote "hallucinate," a term that the field uses for when they just make stuff up, that they fit into a familiar template that is a little bit like playing Mad Libs."*

Like Dorothy uncovering Oz behind the curtain, Dr. Goodlad dispels the smoke and mirrors of LLMs by simply describing their function in plain terms. Eerily similar to crypto projects and platforms that place complex, jargon-filled language on a pedestal in their writing, AI that obfuscates algorithmic logic behind "black box" products should raise equal concerns. Dr. Goodlad argues that another way of interrogating humanity's mystification with Silicon Valley's current bout of AI-solutions is through the lens of the "ELIZA Effect," a term dating back to 1966.

Coined from interactions with MIT computer scientist Joseph Weizenbaum's chatbot of the same name, "the ELIZA Effect" is best described as the tendency to project human traits onto computer programs that produce text through a visual medium.

Downstream of the "Turing Test," which determines whether a computer can pass as human, the "ELIZA Effect" examines the misappropriation of cognition or understanding by humans on a machine or program. This may help explain some of the tenacity with which business leaders are embracing these largely unproven claims: the results appear brain-derived. But for those who face replacement, they see a much higher hurdle from actually understanding the tasks these new AI workers are being made to perform.

Thankfully, a great example of this fissure occurred at the height of AI's hyper-virality, and brought many of these inherent contradictions to the surface. The combined strike of Hollywood Screen Actors' and Screenwriters' Guilds in Summer 2023 was a flashpoint in the tug-of-war between tech enablers capitalizing on copyrighted work. After a years-long deterioration of writer's room standards, and residual restructuring following the advent of streaming services, new contracts mandating the use of AI in scriptwriting were viewed as an acceleration. Since many strikers possessed a keen eye for rising action, writers, and eventually actors, rallied around regaining dignity in the workplace, and preserving something inherently human about the stories we tell. After five months of picketing, work stoppages, and questionable disruption tactics by studios, popular opinion favored strikers who exposed the business-brain pipedreams of company executives.

It's worth pointing to this strike in the context of AI because it reveals something telling about the issue at stake. If AI solutions worked as well as their tech sponsors and peddlers insist, why didn't the studio executives just thumb their noses at the striking writers? Since the writers enjoyed such immense solidarity from the creative community, studios were left without the possibility of enticing scab labor to cross picket lines. Taken together, these facts suggest that, when the chips are down, AI can't quite live up to the hype.

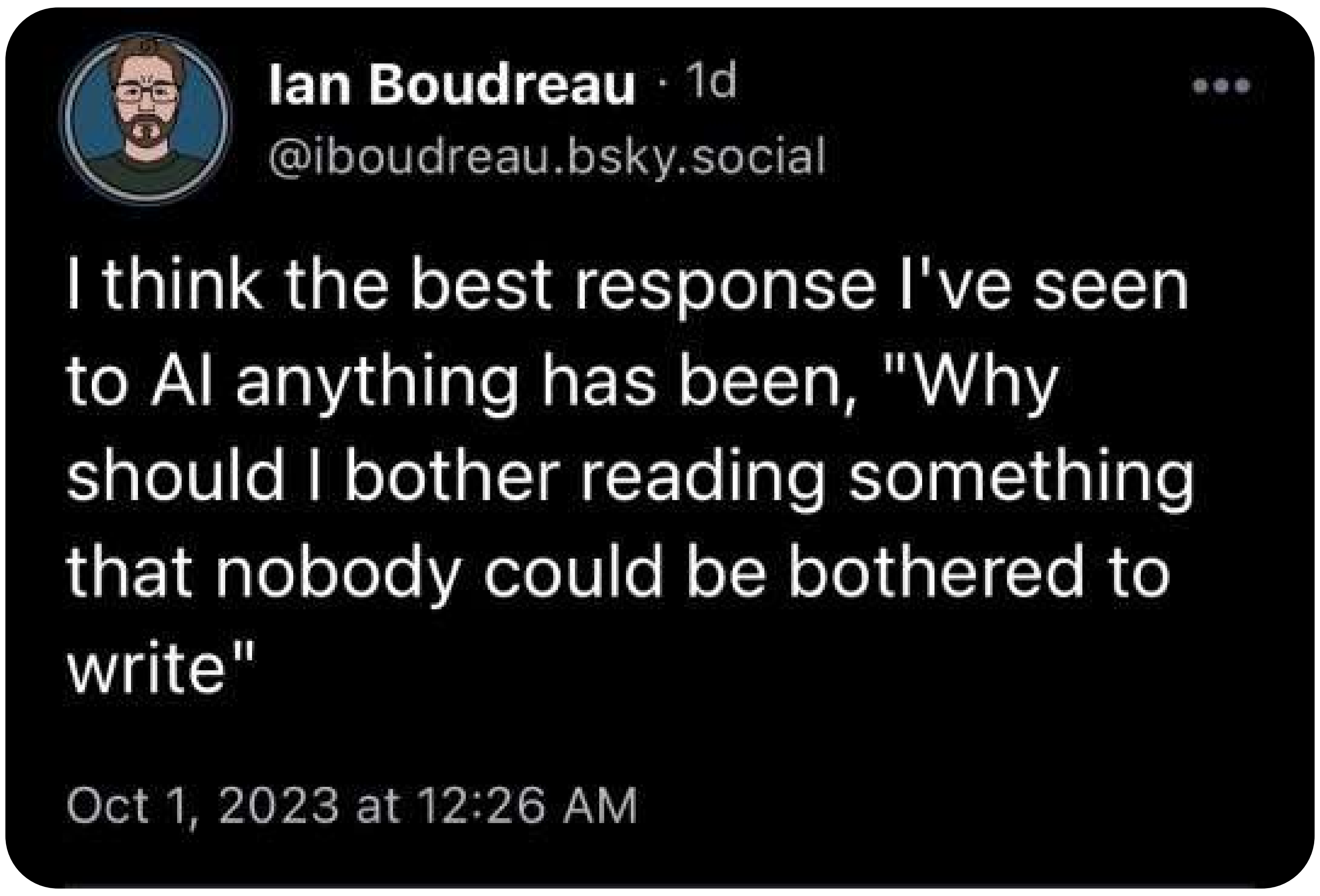

Image source: Ian Bourdreau, Bluesky, October 2023.

But what does this all have to do with crypto? AI's main impacts thus far remain largely content-adjacent, with those in writerly or creative professions suffering the direct effects of being made obsolete. Just look where the first real dust-ups occurred in the labor market, not to mention the inaccurate reporting and uncanny images that have come to dominate social media feeds. And yet, unlike the frustration of reading lazy copy or being unsettled by excessive limbs or teeth, those same anomalies could grossly impact the health of a crypto portfolio. Not only is there now an increased likelihood of making financial decisions based on false information, but a litany of bizarre hiccups suggest AI tools offer more chaos than control. While these events scale from quietly disturbing to potentially harmful on a societal level, the direct impacts on financial health and livelihood to unsuspecting participants cannot be understated.

A good parallel to consider when we think of how AI solutions could impact trading strategies is how a Google DeepMind project shocked fans of the ancient board game, Go. In 2016, the company's AlphaGo program faced off against former South Korean professional Go player, Lee Sedol, for $1 million in prize money. Captured in a stunning documentary, and recently reimagined in Benjamin Labatut's 2023 novel *The Maniac*, AlphaGo overwhelmed the 9 dan-ranked Sedol in four out their five matches with its inorganic gameplay. In fact, much of AlphaGo's advantage was due to its ability to crunch probabilities and extrapolate their outcomes beyond the human brain's capacity. While there's no question that AlphaGo succeeded in its goal, its victory posits a future where human players of all stripes are left behind. For traders, this could mean a brief window of advantage, until someone builds a better program. Not to mention, can a person who relies on AI programs to trade really call themselves a trader? Like the stories we tell, or the games we play, questions of authenticity and enjoyment can become easily intertwined.

After many crypto enthusiasts lost out on NFT gambits and unused land in the Metaverse, participants could demonstrate greater awareness of hype cycles, and their inevitable conclusion. If FUD has an inverted, yet equally precarious concept in the crypto space, it's FOMO. Just as FUD provided cover for many projects that failed to deliver in those aforementioned market iterations, FOMO urged participants to strap in before prices went lunar. But by applying these lessons to the current AI goldrush, crypto users would be correct to place greater emphasis on clear-eyed research, and meet to-good-to-be-true marketing with justified credulity. While Skynet is thankfully still a theoretical concept, it's worth remembering that every technological wonder is bound to share humanity's strengths, and failings. For these and many other reasons, crypto users should tread carefully in 2024 before choosing to cut corners with an "AI" solution.

Be wary of asset managers

True crypto scholars will remember how Bitcoin's debut in 2009 came with a message from the network's mysterious founder, Satoshi Nakamoto. Forever minted in the currency's Genesis Block, Nakamoto captured the mood at the time by including a headline from a prominent U.K. newspaper: "The Times 03/Jan/2009 Chancellor on brink of second bailout for banks." Although the enigmatic Founder never commented publicly on the financial crisis of the late-00s, many have applied this as an essential mantra for their crypto journey. This led BTC, and crypto more broadly, to become escape pods and rendezvous points for those seeking an alternative to traditional finance. Throughout this development, technological breakthroughs and innovative systems of community organization emerged as market participants gained new agency in their financial futures.

This origin story-cum-guiding principle makes BTC's recent adoption by asset management firms perplexing, if somewhat predictable. For many bastions of traditional finance, including digital assets alongside legacy instruments has been viewed unfavorably, with luminaries like Warren Buffet and Paul Krugman expressing skepticism. However, even this blanket resistance has become less fashionable overtime, especially for more established crypto assets, like Bitcoin. Lately, the climate has changed to such a degree that, despite Buffet maintaining outwardly cool rhetoric toward the industry, he's quietly profiting from crypto and crypto-adjacent investments.

But the real cause of this paradigm shift is the growing interest in crypto Exchange Traded Funds, or ETFs, which reached a boiling point in 2023. In the weeks leading up to the Securities and Exchange Commission's (SEC) ruling in the U.S., companies like Blackrock, Fidelity, Greyscale, Morningstar, and VanEck competed to offer the most attractive rates for the soon-to-be-released products. The dogged perseverance of several firms portended the likelihood of a January 10 approval date by the SEC as all but certain. In the days leading up to the SEC's decision, BTC's valuation cleared $45,000 for the first time since April 2022, and even encouraged positive price movements on Wall Street. While some argue this rally is unique, the machinations driving BTC's rising price trend are age-old market dynamics that have been hard at work in other sectors for decades.

Published in April 2023, *Our Lives in Their Portfolios: Why Asset Managers Own the World* by Brett Christophers presents a sober analysis of the financial landscape's current titans. Extrapolating outward from market truisms, Christophers explores how the demands of shareholder value and theories of infinite growth models have put much of the built environment under asset management. Deemed "the world's crooked landlords" in some circles, asset managers have come to own major infrastructure projects, corner the housing market, and even hamstring municipal services. The obfuscated nature of ownership allows asset managers to gain controlling stakes in entire industries, while leaving end consumers unsure who to blame for quality decline or increasing costs. This has been acutely felt by nursing homes, which saw a number of grim metrics increase once they entered asset management portfolios. However, some are starting to connect the dots on how these companies impact not just our daily lives, but endanger our hopes for a stable future.

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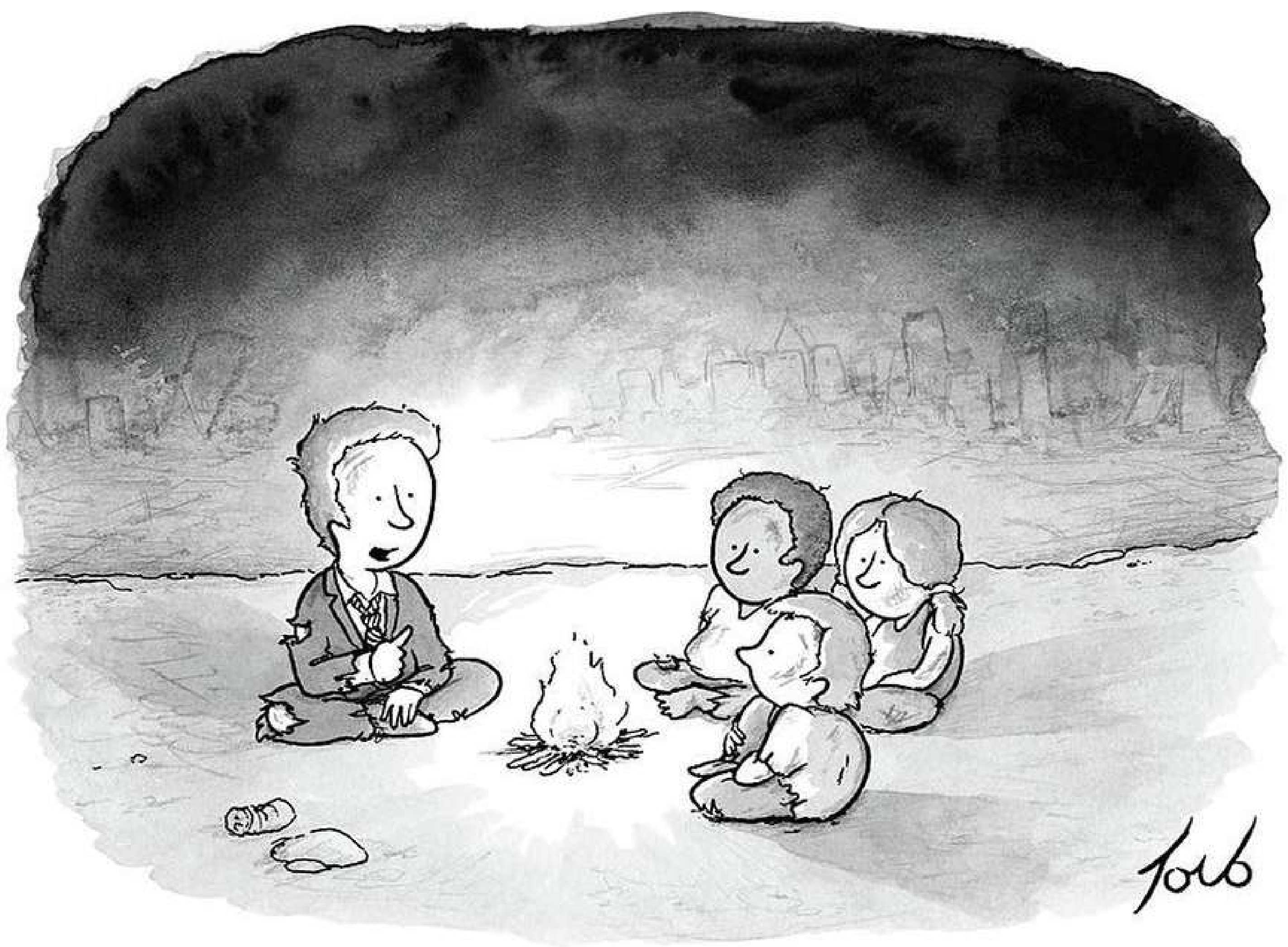


"Yes, the planet got destroyed.
But for a beautiful moment in time we
created a lot of value for shareholders."

Image source: Tom Toro, The New Yorker, 2012.

One way of examining the actions of fund managers is through the language of market analysts: These are economic actors seizing available opportunities to increase revenue for shareholders. Another vantage point yields the realization that essential services like housing, transportation, sanitation, medicine, and education are being pressed to keep profits in the green. Thankfully, the question of whether or not society should allow such monopolistic ownership is being negotiated at the highest levels of government.

Recently, regulators announced increased oversight of power utilities under asset management, their activities in the U.S. bond market, and even how such institutions function as a node of broader risk. U.S. congressional democrats even introduced legislation in the House and Senate that would phase out ownership of single-family homes by asset managers, and seek to ban such purchases outright. If passed, The End Hedge Fund Control of American Homes Act of 2023 would, as *New York Times* journalist Ronda Kaysen described on December 6,

> *"[R]equire hedge funds, defined as corporations, partnerships or real estate investment trusts that manage funds pooled from investors, to sell off all the single-family homes they own over a 10-year period, and eventually prohibit such companies from owning any single-family homes at all. During the decade-long phaseout period, the bill would impose stiff tax penalties, with the proceeds reserved for down-payment assistance for individuals looking to buy homes from corporate owners."*

Additionally, separate legislation titled The American Neighborhoods Protection Act would, "require corporate owners of more than 75 single-family homes to pay an annual fee of $10,000 per home into a housing trust fund to be used as down payment assistance for families." This two-prong approach would limit asset managers from squeezing essential resources for profit while homelessness in the U.S. is hovering at an all-time high. While these actions are causing predictable reactions in certain political circles, the voice of the people can be heard in the comments section of the linked article, which signals overwhelming support for the legislation. While elected officials are aiming to address what many consumers have intuitively understood for some time, disentangling record profits for the public good will likely be a hardwon fight. And yet, even McKinsey sees the writing on the wall.

However, this report from "the smartest guys in the room" does help shed some light on what the industry may be thinking with regards to its pivot toward BTC. According to McKinsey, profits and assets under management declined over the 18-month period, along with a "widening [of] the performance gap between leaders and laggards" due to a variety of market stresses. This helps explain why end-of-year reporting centered double-digit returns for those at the top, despite gains only reaching 5.7% on average in 2023. As larger (or luckier) firms continue to set the curve for glossy headlines, McKinsey notes the need for asset managers to "expand their roles as financial intermediaries" and "capture the tailwinds of new growth" amid global turbulence. With pressure amassing at the federal level to curb business-as-usual acquisitions, and stricter regulations in the pipeline, it's no wonder asset managers are eyeing the digital economy for their next payday.

To be fair, this series of events has had some upswing for crypto market participants. BTC prices enjoyed upward momentum as a result of ETF filings by major asset managers, which encouraged many altcoins to follow suit. But it's worth applying lessons learned in other industries to divert precipitous consolidation, and considering what could be lost by taking this pathway toward greater crypto awareness. As noted in the CEX.IO Market Research Team's *Q2 2023 COMPASS report*, last year was noteworthy in Bitcoin's network growth and diversity of use. This unique period of user-led innovation and experimentation is at odds with dominant interests in traditional finance attempting to cement BTC's use-case as a primarily speculative instrument. And with no staff to prune or product to degrade, it will be interesting to see how these institutions will elect to pull positive returns year-over-year in a notoriously volatile industry. Such an environment could incentivize asset managers to place their thumbs on the scale to make good on their fiduciary obligations. Following the industry response to common sense guardrails on short selling, there's no telling how these new whales will seek to shape the water.

Another possible angle involves BTC's supremacy related to other digital assets. Despite the regulator's reluctance to outwardly define the crypto space, SEC Chair Gary Gensler acknowledges Bitcoin as a "store of value" akin to digital gold. In fact, Bitcoin has largely remained above the regulatory fray due to its fully open-source nature, and no direct founding beneficiaries. Unlike other digital assets that have dominant project organizations, active founders/co-founders, and startup-like formations, BTC is entirely devoid of these structures.

These core differences, coupled with its exponential valuation relative to many other digital assets, makes BTC a prime target for decoupling from the rest of the crypto ecosystem. Asset managers could be heeding McKinsey's advice to gobble up untapped resources, which in this case means siphoning value from decentralized systems to under their control. More notably, after Ethereum and XRP carved out space in the regulatory landscape, sharks started circling.

Image source: The Times/BTC Genesis Block, 2009.

Given how the tide has shifted for crypto in the eyes of asset managers, it's worth extrapolating how this about-face could impact average market participants. If the price of a few assets go to the moon, is it worth the remainder of the crypto space plunging into the ocean like rocket shards jettisoned after launch? So far, the-begrudging-SEC-approval-to-ETF pipeline appears to be the new playbook for asset managers to co-opt crypto tokens that manage to get, and survive, their day in court. But the broader ramifications of allowing these financial leviathans to swallow not just another industry, but one intended to flourish outside of TradFi, as Nakamoto asserted, must be carefully considered.

Reclaim the narrative around crypto

One of the great joys of entering a New Year is reflecting on the "Best of" lists from the previous year that dominate the media landscape. This great show of hands by major outlets and cultural bastions reveals the timbre of discourse, and works to preserve rankings for posterity like bugs trapped in amber. For those who still read longform non-fiction, 2023 saw several crypto-critical books published throughout the year. In fact, *Number Go Up: Inside Crypto's Wild Rise and Staggering Fall* by Zeke Faux, *Easy Money: Cryptocurrency, Casino Capitalism, and the Golden Age of Fraud* by Ben McKenzie and Jacob Silverman, and *Tokens: The Future of Money in the Age of the Platform* by Rachel O'Dwyer all appeared on numerous "Best of" lists come December. Each title deploys a critical lens that investigates and dissects the inner workings of the crypto ecosystem, and takes a long view on the space's more egregious failings. And to be fair, their journalistic and philosophical rigor pose difficult questions for industry enthusiasts.

It didn't help that these books appeared during the investigation, trial, and litigation of Sam Bankman-Fried, who stood accused of defrauding billions from his crypto platform, FTX. Equally famous for his begrudging love of publicity, Bankman-Fried is a recurring character in each of the aforementioned titles, often as a primary source. But he's hardly the only topic of discussion. The curiosities of these authors are also rooted in older questions pertaining to the crypto space. From the eccentric origins of key crypto players, to connecting colossal instances of fraud and market blowback, to the technological properties themselves, these books situated Bankman-Fried into a larger narrative. The corroborative nature of the accounts, matched with careful citation, align an uncomfortable constellation of events for the industry. While it's difficult to calculate the societal impact of these releases, one interesting data point is the reception of another book curiously absent from year-end round-ups.

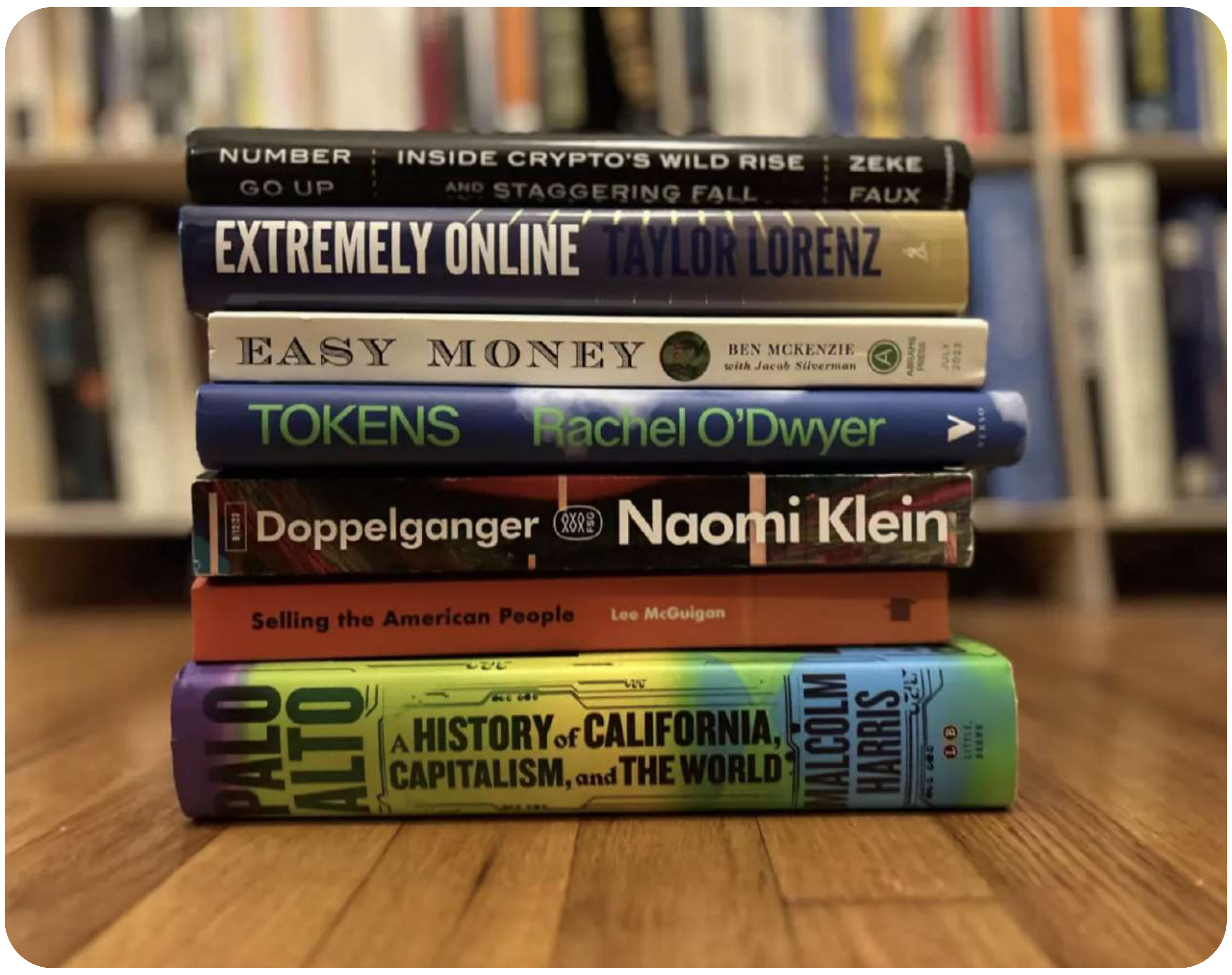
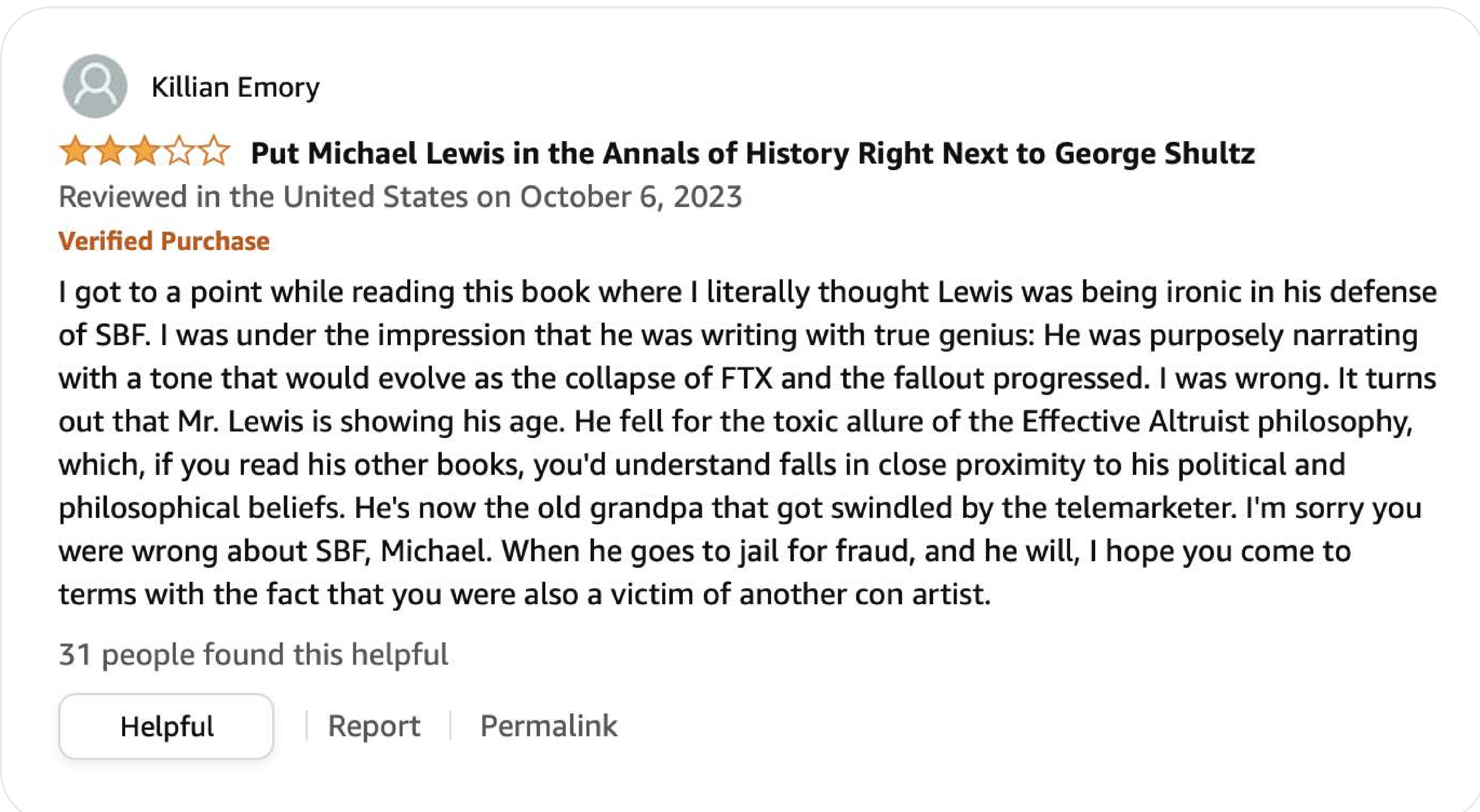


Image source: Brian Merchant, Los Angeles Times, December 2023.

When acclaimed financial journalist Michael Lewis announced his next project would center on Bankman-Fried, many anticipated a book along the lines of *The Big Short*. However, it was clear upon publication that Lewis stumbled into the classic biographer's pitfall of cozying up too closely with their subject. Rather than a careful evisceration of Bankman-Fried's conduct, what awaited readers in *Going Infinite* was a detailed account of the FTX co-founder's seductive charm. The problem for readers largely resonated in the disconnect they felt between Lewis' empathetic depiction of Bankman-Fried, and the ongoing revelations unfolding in the criminal case against him. Following publication, reader criticisms and tepid reviews across various platforms led Lewis to respond to what he described as "mob" behavior for calling out the author's own big short.

Los Angeles Times columnist Brian Merchant went so far as to recommend "skipping right past most of the 'big' tech books of the year — especially *Elon Musk* by Walter Isaacson and *Going Infinite* by Michael Lewis, both of which sadly succumb to the kind of tech-founder hero worship that's increasingly outmoded and often embarrassing." Numerous professional and customer reviews have gone on to argue that Going Infinite lacks Lewis' prior vigor, and cite his previous work deconstructing complex financial networks as being incongruent with his softball treatment of Bankman-Fried. For a clearer picture of the current crypto space, Merchant recommends readers dive into the three titles above, the only releases listed under the subheading, "The Bitcoin books."

To be fair, Lewis noted that *Going Infinite* should be viewed as a departure from his usual reporting. But from the perspective of an afflicted FTX user, it's perhaps understandable to view Lewis' choice of framing as an abdication of journalistic integrity. Due to the accountability many desire to see for Bankman-Fried, a growing portion of the book's readership failed to see reality represented in Lewis' rendition. A review by Jennifer Szalai for *The New York Times* summed up this feeling succinctly, "[T]his isn't a book of investigative journalism; this is Lewis's account of being a fly on the wall — a perspective that's all well and good when your subject isn't a billionaire savant who is charged with defrauding people who trusted him." In other words, this rupture in audience reception could be read as a visceral reluctance to the image of Bankman-Fried being laundered in the popular imagination.


Killian Emory

Put Michael Lewis in the Annals of History Right Next to George Shultz

Reviewed in the United States on October 6, 2023

Verified Purchase

I got to a point while reading this book where I literally thought Lewis was being ironic in his defense of SBF. I was under the impression that he was writing with true genius: He was purposely narrating with a tone that would evolve as the collapse of FTX and the fallout progressed. I was wrong. It turns out that Mr. Lewis is showing his age. He fell for the toxic allure of the Effective Altruist philosophy, which, if you read his other books, you'd understand falls in close proximity to his political and philosophical beliefs. He's now the old grandpa that got swindled by the telemarketer. I'm sorry you were wrong about SBF, Michael. When he goes to jail for fraud, and he will, I hope you come to terms with the fact that you were also a victim of another con artist.

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Image source: Killian Emory, Amazon, October 2023.

After months of breathless commentary on Bankman-Fried's many quirks and idiosyncrasies, the scruffy appearance and bean-bag lifestyle became inauthentic alongside the billions of dollars that went up in smoke. For many, it's difficult to understand how the writer most associated with unpacking the 2008 subprime mortgage crisis could miss lampooning its crypto equivalent. However, the public backlash against Lewis' portrayal and de facto defense of Bankman-Fried provides a useful litmus test to help explain why certain crypto books did manage to resonate in the minds of readers. It seems in 2023, readers and critics alike were starting to turn a skeptical eye toward the crypto industry, and found compelling reasons to engage with the work. So what's fueling these negative public attitudes toward crypto? One major vector worth examining is the discrepancy between regulation in key markets, such as the U.S., and ongoing revelations of high-profile fraud cases, such as FTX.

Before the company dissolved in spectacular fashion, FTX and its main spokesperson, Sam Bankman-Fried, were notorious for philanthropic and political campaign contributions. Receipts show Bankman-Fried, and business partner Ryan Salame, contributed liberally to Democrat and Republican candidates through PACs and straw donations in a manner both pervasive and coordinated. Second only perhaps to outright lobbying, it's clear these efforts were made to ensure their version of industry oversight was implemented at the federal level in the United States. But more importantly, this quid-pro-quo influence of government policy was also intended to limit enforcement, and defang attempts to prevent the types of fund mismanagement that implicated Bankman-Fried. By betting on both sides, Bankman-Fried et al aimed to garner bipartisan support in the hopes of weathering the turmoil of leadership change in either the Executive or Legislative branch.

Reporting by *The American Prospect* helped expose the moral rot of the "Blockchain 8," a group of U.S. elected officials who benefited greatly from FTX-related contributions. This bipartisan coalition, led by House Majority Whip Tom Emmer (R), attempted to stymie the SEC's investigations into crypto companies by questioning the legitimacy of the body's claim to regulate the industry. Concerns later surfaced surrounding the fate of the company's ubiquitous political spending, and the possible downstream effects such contributions could inspire in electeds still holding office.

In a seeming victory for justice, ongoing litigation required FTX to demand the return of all political donations, with many coughing up the funds. However, defiance among some recipients is showing yet again how money can influence the ethical considerations of political representatives. This could help explain the apparent reluctance of elected officials to provide meaningful guidelines to better define the crypto space. If politicians fail to implement critical guardrails for their jurisdiction, industry leaders must rise to the occasion to prevent history from repeating.

Image source: Danny Nelson, CoinDesk, May 2022.

Without a compelling alternative to assuage the growing cadre of participants who have witnessed or experienced loss through their own eyes and wallets, user dedication will inevitably wane. That's why it's incumbent for enthusiasts to challenge these emerging narratives by advocating for concrete actions to protect retail users, and work to root out fraud in the crypto ecosystem. This means demanding representation from electeds who will heed calls for justice, and hold bad actors accountable in favor of affected users. Moreover, such behavior as exhibited by Bankman-Fried must not only be discouraged, but made impossible to replicate through careful regulation.

As companies and participants continue to learn the hard way, it's difficult to message around lost, stolen, or misappropriated funds. Michael Lewis' failed attempt to disinfect Bankman-Fried's public image through incredulous puffery suggests the public is becoming increasingly fed up with attempts to paper over criminality. Rather, each instance of fraud or industry malpractice is another nail in the coffin of global crypto adoption. Therefore, to realign worldwide crypto use beyond speculative markets, efforts must be made to address participant concerns before they come to dominate the industry narrative. If 2023 is any indication, a sea change with measurable impact for crypto curious and serious participants is long overdue. Thankfully, several jurisdictions are shining a light on potential paths forward.

Embrace and accommodate regulation

While the United States continued its reactionary posture toward the crypto space throughout 2023, last year saw many countries take more hardlined approaches toward industry oversight and enforcement. The European Union formally passed its long-awaited Markets in Crypto-Assets legislation, or MiCA, which set in motion the implementation of a legal framework for key dimensions of the crypto ecosystem.

CEX.IO's Director of Lithuania and Head of Corporate Payment Solutions, Arina Dudko, wrote enthusiastically about the possibility of having greater transparency from regulators, and clearly defined protections for market participants. Much like the workplace safety standards that helped correct cruelties of the Industrial Revolution, MiCA's standardized language establishes ecosystem conduct with the aim of increasing stability and participant trust.

In similar moves, Hong Kong, South Korea, and Singapore all passed sweeping policies to define how cryptocurrency companies can conduct business in their regions. In Hong Kong, a new licensing regime went live in June that imposed financial and regulatory restrictions on exchanges, while greenlighting a limited menu of services for retail customers. While some critics bemoaned the high application costs as a barrier to entry for aspiring companies, the new process would officially legalize basic retail trading. In turn, greater due diligence was implemented for builders, business, and tokens alike, requiring background checks and clean bills of financial health to qualify. Prior to this decision, Hong Kong-based participants relied on unregulated platforms to access the digital economy, often at their own peril.

Also in June, South Korea accelerated its oversight of the crypto space by passing omnibus legislation that combined 19 pending bills aimed at ramping up participant protections. The Act on the Protection of Virtual Asset Users tightened restrictions for virtual asset service providers' (VASPs) handling of customer funds and information, and mandated oversight through regular reporting. Rules for "self-issued virtual assets" appear in response to the shell game accounting practices that caused countless participant hardship. Perhaps more importantly, the law confers power on the Financial Services Commission (FSC) to enforce these regulations through imprisonment, sanctions, and fines for bad actors. After successful passage, these policy changes are now set to take effect July 2024.

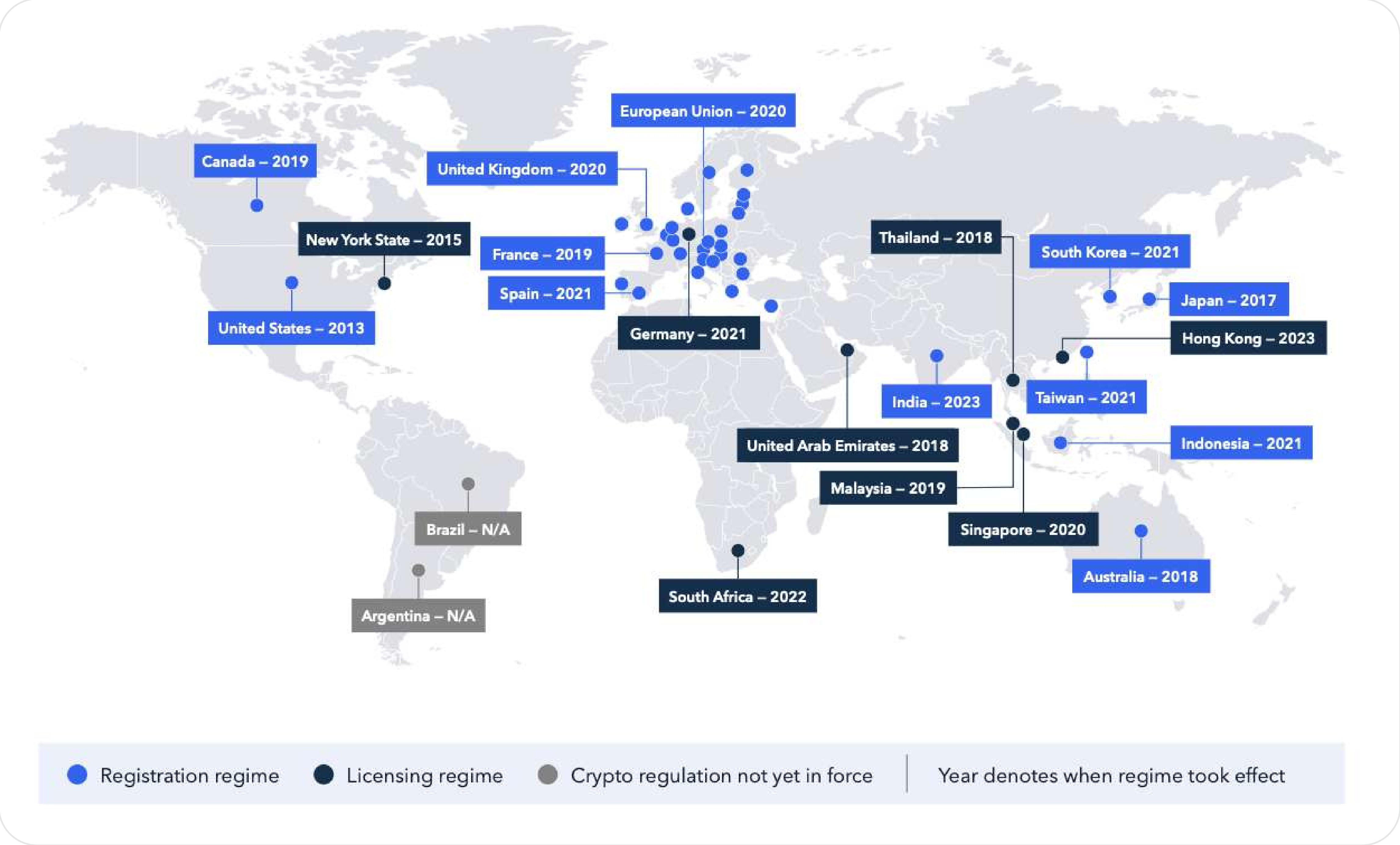

Image source: TRM Labs, 2024.

Later in August, the Monetary Authority of Singapore (MAS) announced a finalized version of its legal framework for stablecoins, and how they can interact with the traditional economy. In addition to clearly defining stablecoins, the body outlined its regulatory reach as pertaining to "single-currency stablecoins (SCS) pegged to the Singapore Dollar or any G10 currency, that are issued in Singapore." This allowed the MAS to set broader rules for SCS transaction and redemption that placed the onus of compliance on token issuers, while establishing clear mechanisms for enforcement. By dispelling another legal gray area, retail and institutional participants alike can transact with greater certainty and peace of mind after high-profile collapses.

Back in London, the Financial Conduct Authority (FCA) is cracking down on crypto companies in an effort to root out scams and potential fraud. In addition to protecting consumers by maintaining the integrity of financial markets, the FCA holds service providers accountable for adhering to regional standards. While the regulator imposed a host of requirements to ensure crypto companies are operating above-board, many of the latest policy updates have concerned messaging. Centered primarily around the marketing of crypto products and services, the FCA's intersectional guidelines propose a unique topographical environment that appears to disqualify the bulk of common industry practice. This includes the use of promotional incentives, affiliate program activities, and "refer a friend" bonuses, all of which must pass review by an approved third-party.

It's amidst this climate that the U.S. opened the floodgates to Bitcoin ETFs, as outlined above, despite maintaining an overall standoffish posture toward the rest of the ecosystem. The institutional flip-flopping of SEC precedent, after causing uncertainty and litigation, now appears to be setting the stage for greater cross-pollination between digital assets and financial behemoths. Those playing close attention to the choreography of asset managers and regulators leading up to the approval saw how raw financial will can influence the wheels of bureaucracy. However, it's crucial to note that the embrace of specific financial instruments, in the case of Bitcoin ETFs, does little to resolve the absence of legal foundations necessary to adequately regulate the crypto ecosystem.

From a bird's eye view, this realignment toward greater regulatory policy is a dominant, worldwide trend. According to a report by TRM Labs examining "21 jurisdictions representing approximately 70% of global crypto exposure," governments are beginning to turn a critical eye toward the digital economy. The crypto analytics firm discovered that "[i]n 2023, 80% of these jurisdictions moved to tighten crypto regulations, and almost half specifically progressed consumer protection measures." If these percentages denoted the chance of precipitation, it would be foolish to not carry an umbrella. In light of such a seismic change in climate, industry leaders are being left with little choice but to start dressing for the weather. Looking ahead in 2024, TRM Labs drew up key dates and landmark decisions to illustrate how the regulatory landscape will continue to evolve throughout the year. While an element of uncertainty remains in the air due numerous election cycles, it should be clear that crypto is becoming more regulated across major jurisdictions.

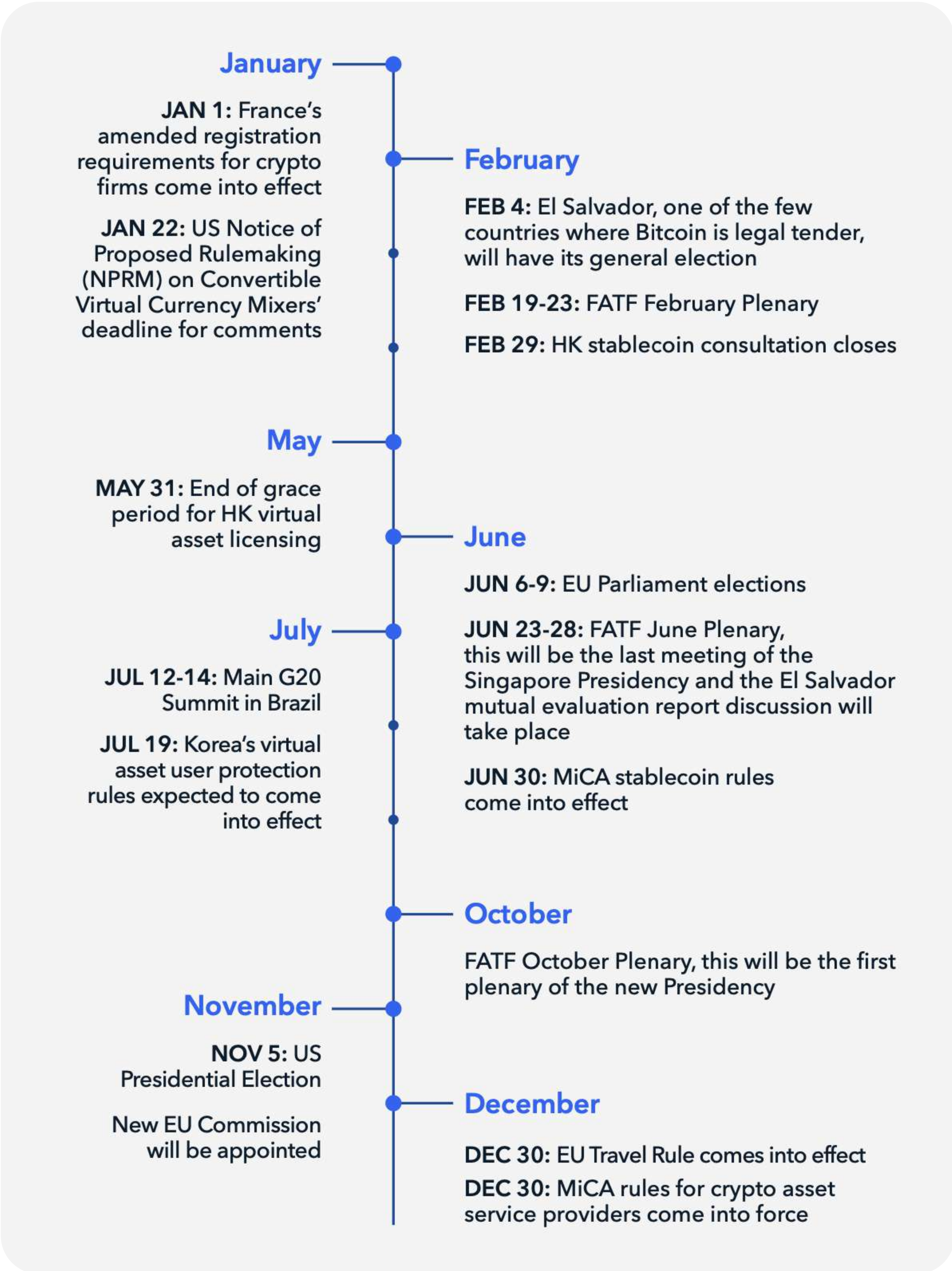

Image source: TRM Labs, 2024.

While this timeline highlights the electoral vulnerabilities that could serve to undermine efforts toward regulation, it's imperative that industry leaders embrace and support these measures. To that end, it's also crucial to question those who see any interference by the government as a detriment to innovation. In fact, there's a growing movement in tech circles for generative regulations that encourage developers to reach further in their renderings of products and systems. This attitude will be essential going forward as crypto platforms decide how to operate in the increasingly-defined world of digital asset regulation. As more markets have clear rules and penalties in place, companies will be forced to tailor their services by region, or comply with the steepest guidelines platform-wide.

Barring a step backward to legal gray zones and black swan events that could (and should) have been prevented, these are the paths forward for ethical crypto providers.

Better yet, these provisions should be celebrated as concrete solutions to the rampant mismanagement of customer funds and outright fraud that's occurred in recent years. Most jurisdictions currently exploring heightened regulations have experienced the implosion of a homespun crypto hero, and are not in any rush to re-live such trauma. That's why many of these legislative packages set their sights on common sense measures that demarcate official oversight, and lean heavily on consumer protections. It's at this crossroads that crypto leaders could choose to send a strong message by working with officials to ensure a smooth transition. Rather than just asserting user-centric values in mission statements, the industry should embrace and be receptive to regulation if it means protecting and growing the global crypto community. As we've seen, words can only go so far to remedy actions. Therefore, leaders must refrain from pushing empty platitudes, and instead focus on concrete ways to boost participant confidence.

These changes are inevitable, and the crypto ecosystem would be wise to anticipate and work to accommodate their implementation. Undoubtedly, there will be some that choose to leapfrog expectations, forever seeking the next regulatory lillipad amenable to their unique situation. Where fringe services may continue to operate outside official oversight, retail exchange is gaining legal architecture at a rate that will outpace even the nimblest of entities. With each legislative victory portending greater control in an official capacity, eventually, there'll be nowhere left to hop. But then again, it's a tough sell to lobby for customer trust after fleeing regulation to the point of running out of road. To avoid such a humbling and exhaustive process, companies should strive to ensure their services meet all jurisdictional requirements, or risk the consequences.

Get serious about crypto's environmental impact

The industry's carbon footprint has been a not-so-secret secret since journalists first started looking under the hood of Bitcoin's seminal proof of work consensus mechanism. While serving the security equivalent of a deadbolt, it's become an albatross for the sector due to the network's increasing energy needs. With recent climate data raising concerns about the longevity of Earth's stability, it's past time to seriously examine the ways the crypto industry can improve its environmental stewardship. After all, as CEX.IO Founder and CEO Oleksandr Lutskevych emphasized on a trip to the *Cointelegraph* Innovation Circle, it's hard to transact digital assets on an uninhabitable planet. For context, the chart below illustrates Bitcoin's energy consumption since 2019, which shows a clear upward trend.

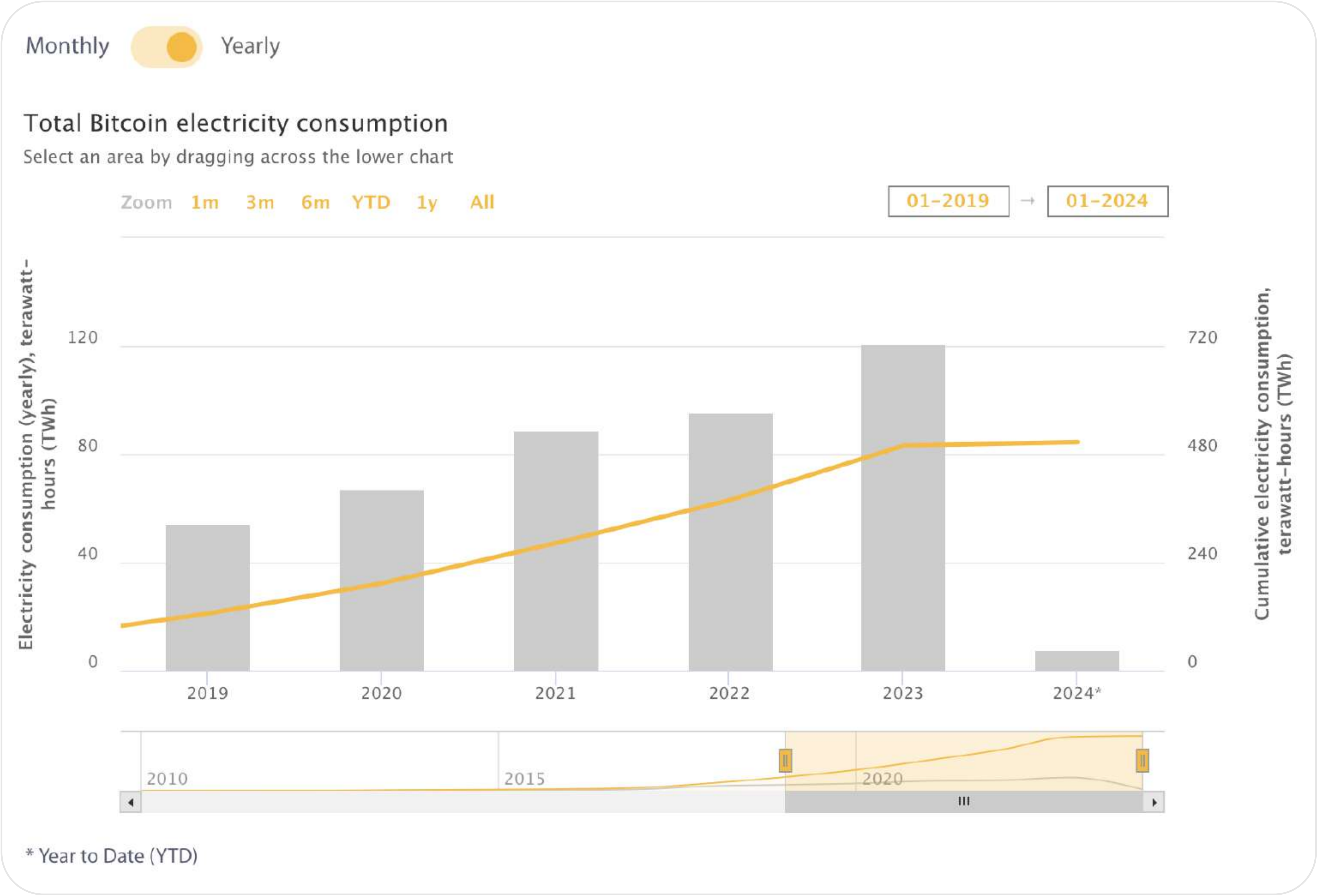

Image source: [Cambridge Bitcoin Electricity Consumption Index](), 2024.

Unfortunately, the stats on this problem aren't good for anyone. A recent study by the United Nations University revealed the crypto industry's land and water usage have been on the rise alongside its energy consumption. Most of this is again due to the main culprit in crypto's sustainability problem: Bitcoin. In turn, the report outlines how the immense mining rigs required to participate in BTC's increasingly competitive proof of work protocol are still drawing aggressively from fossil fuels. The UN found that "67% of the electricity consumed for Bitcoin mining in 2020–2021 was produced from fossil energy sources," resulting in over "85.89 megatons of CO2 emitted during that same period." To sour the mood further, the report concluded that coal accounted for "45% of Bitcoin's energy supply mix," meaning nearly half of miners are reaching backwards to sustain operations. And with coal accounting for 26% of global energy consumption, this puts BTC's usage above the world average. It's tough to put into perspective, but a few additional data points reveal a grim picture:

> *"According to study results, published by the United Nations University and Earth's Future journal, during the 2020–2021 period, the global Bitcoin mining network consumed 173.42 Terawatt hours of electricity. This means that if Bitcoin were a country, its energy consumption would have ranked 27th in the world, ahead of a country like Pakistan, with a population of over 230 million people. The resulting carbon footprint was equivalent to that of burning 84 billion pounds of coal or operating 190 natural gas-fired power plants. To offset this footprint, 3.9 billion trees should be planted, covering an area almost equal to the area of the Netherlands, Switzerland, or Denmark or 7% of the Amazon rainforest."*

But that's not all. The report describes the amount of water used to cool the vast matrices of mining rigs as enough to fill "over 660,000 Olympic-sized swimming pools." And that globally, the land used to mine BTC is equivalent to "1.4 times the area of Los Angeles." These are not small allotments of resources. Rather, these are the types of decisions that leave lasting effects on landscapes and populations meant to absorb their effects. Veterans of the space are likely familiar with many of these arguments, and even know stories of innovations around this problem. But this consistent drumbeat of alarming claims has been going on for some time. A report produced by the MIT Center for Energy and Environmental Policy Research came to an eerily similar conclusion as far back as 2018:

> *"We show that, as of November 2018, the annual electricity consumption of Bitcoin ranges between 35.0 TWh and 72.7 TWh, with a realistic magnitude of 48.2 TWh. We further calculate that the resulting annual carbon emissions range between 21.5 and 53.6 MtCO2; a ratio which sits between the levels produced by Bolivia and Portugal.17 The magnitude of these carbon emissions, combined with the risk of collusion and concerns about control over the monetary system, might justify regulatory intervention to protect individuals from themselves and others from their actions."*

Comparing these snapshots of the Bitcoin network should highlight an obvious concern for anyone losing sleep about the planet's future. Unlike sketchy price predictions or market theory, these numbers have real consequences. The potential for life to become more challenging, if not outright impossible, for huge swaths of the population on a global scale, is no longer a theoretical problem. By accepting that premise, it would seem incumbent for any industry with a part to play in deviating from this outcome to make their contribution. Rather than stand idly by, or remain complicit in the planet's destruction like the fossil fuel industry, enthusiasts could advocate for solutions that aim to decrease crypto's carbon footprint.

While events like the Ethereum Merge offer a path forward for legacy networks to clean up their acts, reluctance remains the number one obstacle to cutting Bitcoin's negative impact. In a piece for *MIT Technology Review* in February 2023, Amy Castor explores how the network's core architecture is sustained, and what's keeping it static:

> *"In principle, a small group of people could take the reins and switch Bitcoin to proof of stake. Since it is an open-source project, Bitcoin's development relies on decisions made by the community, which in theory includes anyone who wants to participate. But updates to Bitcoin's code are actually controlled by a small core team of developers, known as "maintainers," whose salaries are privately funded by influential groups such as Blockstream, a Bitcoin startup; Coinbase, the largest crypto exchange in the US; and the MIT Digital Currency Initiative, a research project hosted by the MIT Media Lab."*

If Ethereum was able to reduce its energy consumption by 99% by essentially upgrading its operating system, is it not incumbent on BTC's "maintainers" to similarly modernize the flagship asset? A technological impairment is one thing, but a lack of political will is the byproduct of a fundamentally human problem: stubbornness. As we're learning in real time with AI, human creations are destined to inherit our flaws, with Bitcoin being no exception. Does prioritizing proof of work's security over thoughtful energy consumption align with preserving crypto's future, let alone our own? Much to the chagrin of Al Gore critics, this has been an inconvenient truth since long before BTC was a glimmer in Satoshi's eye. Moreover, choosing to ostrich rather than address the growing threat of climate change will only ensure its effects are maximally catastrophic.

This will become increasingly difficult as more ground is gained by those with visions for a better, less-congested world. And recent developments, like BTC's ETF approvals, and the network's next halving event set for April 2024, will likely bring these issues closer to the surface. It's unclear how increased scarcity of miner rewards will square with an infinite growth model, especially if BTC continues to fall under asset manager control. After all, they're not historically known for ethical climate stewardship. This means the push for transformative climate policy could be most effective from retail customers and industry leaders if crypto hopes to become more carbon neutral. By decarbonizing crypto, the industry could set a thoughtful precedent as more sectors grapple with their own climate impacts. Once again, there are already organizations envisioning a path forward.

Change the Code Not the Climate has been raising the alarm about the environmental harm that's often incentivized by Bitcoin's antiquated proof of work model, and calling for urgent action to coordinate a software update. Citing the Ethereum Merge, this organization predicts that a similar move would dramatically decrease Bitcoin's carbon footprint. According to their website:

> *"We know a basic software code change would reduce Bitcoin's energy use by 99.9%. If only 30 people — the key miners, exchanges, and core developers who build and contribute to Bitcoin's code — agreed to reinvent proof-of-work mining or move to a low-energy protocol, Bitcoin would stop polluting the planet. So why isn't Bitcoin changing its code?"*

Given the disquieting report findings above, this should read as an excellent question. The ramifications of climate change could be an all-hands-on-deck moment for bitcoiners who want the project to see its full lifetime. In fact, such a threat could devour the security hand-wringing that conservative bitcoiners always level for downvoting an upgrade. How secure will any network be once major climate events start to domino? Will we still have the luxury of speculating on the price of computer code when we're past the point of snow? These are the types of questions that should be urgently on the minds of crypto enthusiasts who value their lives on this planet.

If measured dialogue and data fails to move the needle, it could be worth considering what regulatory pathways exist to nudge the industry into action. Similar to a vehicle emissions test, tokens could be assessed and held to energy caps, or risk suffering limited or complete ostracization from the market. These parameters would need to be implemented in key jurisdictions, like those outlined above, to ensure that transacting is made untenable for violators. For a truly leaderless network like BTC, this would necessitate a global coalition to coordinate and hold itself accountable. What's so fantastic about working together to save ourselves? The alternative is a lose-lose for all parties involved, an outcome that requires zero game theory to understand. If the aforementioned stakes are to be accepted, then it only follows that legitimate action should be the next existential question for crypto.

Conclusion: The road ahead

Anyone who's been around small children knows that monsters can come in all shapes and sizes. But the ones Gramsci was referring to, as mentioned in our opening, are of a different nature, often just as visible in the social sphere. Those who maintain a broken system for personal benefit, who undermine progress through misdirection, who belittle real value to boost its hollow replacement. This definition includes the usual suspects of bad actors, con artists, and swindlers; but CEOs, influencers, and sycophants can all be swept up by its dragnet. Given where we've been, and the futures proposed by those with the loudest voices, discerning between progress and retrograde is now the task at hand for all in 2024.

This will likely require tenacity and courage beyond what's typically expected of market participants. In a climate of credulous tech worship, it means breaking the taboo of FUD to expose outrageous claims before they metastasize. As "AI" continues to dilute the authenticity of news, art, and ideas, choosing how and what to consume will dictate success in an increasing range of endeavors. If the crypto space becomes further dominated by asset managers, participants must consider the downstream effects of where they place their value. In a similar, more somber vein, as the planet continues to warm, questions of how and what to value will become increasingly existential, if not irrevocably obsolete.

Unfortunately, arriving at a communal understanding is only the beginning. What's required next is bold action by visionaries within the industry who can help articulate a path forward to the broader community. But everyone has a role to play. Crypto enthusiasts are uniquely positioned to apply their skills as researchers and logicians to expose the AI-generated chimeras in their midst. With instincts sharpened by repeat encounters with calamity, and an always-on media ecosystem best viewed obliquely, they're adept at separating fact from fiction. Even so, the months ahead are likely to test even the most hardened in the crypto space. While some may be tempted to just weather the storm, it may be time to start considering how we redirect the winds in light of lessons learned, before it's too late.

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