

August 28, 2023

SUBMITTED VIA FORM/EMAIL

Secretary
Securities and Exchange Commission
Division of Trading and Markets
100 F Street NE
Washington, DC 20549
rule-comments@sec.gov

Re: *SR-CboeBZX-2023-042*

Thank you for the opportunity to provide input to the U.S. Securities and Exchange Commission (“SEC”) regarding the Notice of Filing of a Proposed Rule Change, as Modified by Amendment No. 1, to List and Trade Shares of the WisdomTree Bitcoin Trust under BZX Rule 14.11(e)(4), Commodity-Based Trust Shares (“Notice of Filing”). We recently learned of the public comment period and apologize for this late submission. Earthjustice, Environmental Working Group, and Greenpeace USA together submit these comments with regard to the climate and energy impacts if the Notice of Filing is approved.

We write to highlight the compounding impact of the failure of many Bitcoin companies to disclose their energy sources or locations (see our Letter of June 17, 2022, attached as Appendix A) along with the ETF application pending before you. ETFs like the Notice of Filing will make the disclosure of significant climate change impacts even more murky.

Following China’s ban on proof-of-work cryptocurrency mining in September 2021, the U.S. now houses the most cryptocurrency mining operations in the world.¹ The Cambridge Center for Alternative Finance estimates that as of December 2021, 37.84% of global computational power utilized for Bitcoin is located in the United States.²

As cryptocurrencies continue to grow in number and usage,³ the associated surge in energy consumption for proof-of-work cryptocurrency mining makes the clean energy transition and meeting federal and state-level climate and environmental goals much more difficult. The amount of load estimated for cryptocurrency mining operations in the near term is staggering—in Texas alone, the amount of miners requesting new connection to that fragile grid is nearly 42 GW of electricity before 2027, enough electricity to power more than 8.3 million Texas homes

¹ See, e.g., BBC, *US leads Bitcoin mining as China ban takes effect* (Oct. 13, 2021), <https://www.bbc.com/news/technology-58896545>; see also Letter from Senator Elizabeth Warren *et al.* to Cryptominers (Jan. 27, 2022) (explaining that the United States’ share of global Bitcoin mining increased from 4% in August 2019 to 35% in July 2021).

² Cambridge Center for Alternative Finance, *Cambridge Bitcoin Electricity Consumption Index: Bitcoin Mining Map*, https://ccaf.io/cbeci/mining_map (last visited August 23, 2023).

³ Statista, *Overall cryptocurrency market capitalization per week from July 2010 to June 2022*, <https://www.statista.com/statistics/730876/cryptocurrency-maket-value/> (last visited June 14, 2022).

during periods of peak demand.⁴ An industry-sponsored paper last year projected that under certain price assumptions, energy consumption for Bitcoin could septuple (7x) in just six years.⁵

At a time when the U.S. needs to rapidly decrease fossil fuel production and consumption⁶ to combat the climate crisis and carefully plan the future of the grid structure for an electrified society, proof-of-work cryptomining operations will instead (1) increase the combustion of fossil fuels, which directly cause toxic air and water pollution and exacerbate climate change, and (2) could destabilize the electric grid. Already, U.S.-based Bitcoin miners are responsible for between one quarter and up to forty-five percent of the global greenhouse gas (“GHG”) emissions caused by Bitcoin mining.⁷ The rapid increase of energy demand from proof-of-work cryptocurrency mining operations in the United States, much of it fossil fuel-based,⁸ conflicts directly with federal and state plans to reduce GHG emissions. In fact, in its recent report on the Mitigation of Climate Change, the Intergovernmental Panel on Climate Change’s (“IPCC”) specifically noted that “the energy requirements of cryptocurrencies is also a growing concern” and that digital currencies like Bitcoin are likely to “be a major global source of CO₂ if the electricity production is not decarbonised.”⁹ The industry’s extensive power usage presents a transition risk for proof-of-work cryptocurrency mining companies.

⁴ ERCOT, Large Load Interconnection Status (May 31, 2023), <https://www.ercot.com/files/docs/2023/05/31/LLI%20Queue%20Status%20Update%20-%202023-05-31.pdf>; ERCOT, Fact Sheet (Nov. 2021) <https://www.ercot.com/files/docs/2021/11/23/ERCOT%20Fact%20Sheet.pdf>; Naureen S. Malik, *Crypto Miners’ Electricity Use in Texas Would Equal Another Houston*, Bloomberg (Apr. 27, 2022), <https://www.bloomberg.com/news/articles/2022-04-27/crypto-miners-in-texas-will-need-more-power-than-houston>.

⁵ Nic Carter & Ross Stevens, *Bitcoin Net Zero* (Sept. 2021), <https://bit.ly/3LRoOG2>.

⁶ IPCC, *The evidence is clear: the time for action is now. We can halve emissions by 2030*. (Apr. 4, 2022) (quoting IPCC Working Group III Co-Chair Jim Skea, “It’s now or never, if we want to limit global warming to 1.5°C (2.7°F) . . . Without immediate and deep emissions reductions across all sectors, it will be impossible.”), <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/>; Damian Carrington, *It’s over for fossil fuels: IPCC spells out what’s needed to avert climate disaster*, The Guardian (Apr. 4, 2022) <https://www.theguardian.com/environment/2022/apr/04/its-over-for-fossil-fuels-ipcc-spells-out-whats-needed-to-avert-climate-disaster> (quoting UN Secretary General, “Increasing fossil fuel production will only make matters worse . . . It is time to stop burning our planet, and start investing in the abundant renewable energy all around us.”); Lina Tran & Joseph Winters, *‘We are at a crossroads’: New IPCC report says it’s fossil fuels or our future*, Grist (Apr. 4, 2022), <https://grist.org/science/we-are-at-a-crossroads-new-ipcc-report-says-its-fossil-fuels-or-our-future/>.

⁷ Alex de Vries et al., *Revisiting Bitcoin’s carbon footprint*, 6 Joule 498 (2022), <https://www.sciencedirect.com/science/article/abs/pii/S2542435122000861>.

⁸ Since cryptocurrency mining requires a steady source of power, 24/7/365, miners seek cheap sources of electricity generated by burning coal and natural gas—often extending the life of fossil fuel sources of energy. See Alex de Vries et al., *Revisiting Bitcoin’s carbon footprint*, 6 Joule 498 (2022), <https://www.sciencedirect.com/science/article/abs/pii/S2542435122000861>. The electricity used to mine Bitcoin in 2020 resulted in almost 60 million tons of CO₂ emissions, according to one estimate. See ForexSuggest.com, *Global Impact of Crypto Trading*, <https://forexsuggest.com/global-impact-of-crypto-trading/> (last visited June 14, 2022). Further, the CO₂ emissions from mining Ethereum and Bitcoin in 2021 equaled the tailpipe emissions of more than 15 million gas-powered cars. See Committee on Energy & Commerce, Memorandum, at 5 (Jan. 17, 2022), https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Briefing%20Memo%20OI%20Hearing_2022.01.20.pdf.

⁹ IPCC, *Climate Change 2022: Mitigation of Climate Change* (Apr. 2022), https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf.

In addition to the medium-term and long-term demands on an energy system in need of rapid change, proof-of-work mining creates a more immediate and acute climate risk tied to legacy coal and gas plants. Proof-of-work mining companies are resurrecting otherwise uneconomic fossil-fueled power plants to mine proof-of-work cryptocurrencies. This occurs because cryptocurrency mining companies will pay above-market prices for those fossil-fueled plants. Keeping older, dirtier plants online as a source of low-cost energy for cryptocurrency mining severely hinders efforts to reduce GHG emissions while prolonging harmful impacts on local communities.

Nowhere in the Notice of Filing is climate risk, regulatory risk, transition risk, or the risks from inadequate (and sometimes misleading, see again Appendix A) disclosures by publicly-traded cryptomining companies discussed. There should be public disclosure of the many climate and energy risks of investing in any financial product tied to the price of Bitcoin. An increase in the price and trading of Bitcoin may increase the amount of computing power put towards mining, and as such, the greenhouse gas emissions and local pollution therefrom.¹⁰ The Scope 3 emissions discussed in Appendix A for mining pools and exchanges are similar for ETFs such as the Notice of Filing and we direct you to that discussion of significant Scope 3 emissions at pages 16-19.

We applaud the SEC's leadership on climate and appreciate the opportunity to provide these comments.

Sincerely,

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¹⁰ Qin, Meng, Tong Wu, Xuecheng Ma, Lucian Liviu Albu, and Muhammad Umar, *Are Energy Consumption and Carbon Emission Caused by Bitcoin? A Novel Time-Varying Technique*, 80 *Economic Analysis and Policy* p 109–20 (2023). doi: [10.1016/j.eap.2023.08.004](https://doi.org/10.1016/j.eap.2023.08.004); Asumadu Sarkodie, Samuel, Maruf Ahmed, and Thomas Leirvik, *Trade Volume Affects Bitcoin Energy Consumption and Carbon Footprint*, 48 *Finance Research Letters* p. 102977 (2022). doi: [10.1016/j.frl.2022.102977](https://doi.org/10.1016/j.frl.2022.102977).

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Appendix A