EXHIBIT B

Bitcoin Mining and US Critical Infrastructure Security

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Abstract

The Bitcoin mining ecosystem in the United States poses a growing risk to domestic critical infrastructure. Mining data centers put the energy grid at risk for power failures. Strategically motivated Foreign Direct Investments in mining facilities and hardware add to this risk, compounded by the recent discovery of Chinese state-sponsored actors in the IT systems of US critical infrastructure environments. As Bitcoin's value and ownership by mainstream financial institutions and investors grows, the US-based Bitcoin mining ecosystem itself should be considered critical infrastructure. As such, it is now a focal point for geopolitical, economic and national security concerns.

Introduction

Since Bitcoin's introduction in 2009, technological innovations such as Application Specific Integrated Circuit (ASIC) chips have catapulted companies like NVIDIA to $1 Trillion valuations and spurred a race to secure prime data center locations with large yet inexpensive quantities of power and cooling. Promises of revived economic opportunity often help secure tax breaks and ensure favorable regulatory frameworks from local authorities. Companies tied to adversarial nations are strategically investing in the Bitcoin mining infrastructure in the US, including securing advantageous contracts with energy providers.

Section 1: China's Cryptocurrency Strategy

China's ban on cryptocurrency transactions and mining in 2021[1] was a strategic economic maneuver. By implementing this prohibition, China effectively relieved the strain on its energy resources while strategically leveraging the economic benefits associated with cryptocurrencies. Furthermore, the ban served as a measure to curb capital flight, as cryptocurrency transactions bypass the oversight of Chinese regulatory authorities. Given the immense energy consumption associated with Bitcoin mining, the ban also addressed China's struggle with energy scarcity, particularly evident in its challenges with preventing blackouts outside major urban centers. China's inability to maintain a balance between electricity supply and demand resulted in widespread rolling blackouts in 2021, prompting government-mandated energy consumption reductions. These dynamic circumstances significantly influenced China's approach to cryptocurrencies.

[1] https://www.bbc.com/news/technology-58678907

Prior to the ban, China hosted 65-82% of the world's Bitcoin mining capacity[2], powered by a mix of renewable and non-renewable sources, alternating between hydropower in summer and coal in winter. Mining capacity soon shifted to other nations, including Kazakhstan, the US, and Ethiopia, where Chinese companies recently funded a $4.8B dam for miners.[3] Despite its official ban, the Chinese government backs a network of mining and hardware companies within the US that are partly private, partly state-owned, and have prioritized obtaining contracts with energy providers.

China's government is among the world's top holders of Bitcoin (194,000 Bitcoin, or roughly $12B at the time of writing) and other cryptocurrencies.[4] This surpasses amounts owned by large commercial entities like MicroStrategy and Coinbase[5]. Chinese courts recognize cryptocurrency as legitimate and legal property, reinforcing their significance in the financial landscape while adding to the confusing nature of the government's overall cryptocurrency strategy. Although mining is banned, the creation of China's Central Bank Digital Currency (CBDC), the Digital Yuan, remains a priority economic area[6]. The Digital Yuan does not rely on a public blockchain and is not decentralized. It was developed in conjunction with China's major banks. China's cryptocurrency strategy remains focused on centralizing its fiscal economic power with and through the Digital Yuan, while simultaneously exporting its energy consumption and Bitcoin mining operations around the world, ultimately consuming foreign countries' energy resources while deploying Chinese Bitcoin mining technology around the world, primarily in the United States and Africa.

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[2] https://time.com/6051991/why-china-is-cracking-down-on-bitcoin-mining-and-what-it-could-mean-for-other-countries/

[3] https://www.straitstimes.com/business/chinese-Bitcoin-miners-find-new-crypto-haven-in-ethiopia

[4] https://learn.bybit.com/crypto/who-owns-the-most-Bitcoin/

[5] https://www.forbes.com/sites/billybambrough/2022/11/05/china-could-secretly-hold-6-billion-of-Bitcoin-ethereum-and-other-crypto-triggering-a-serious-price-crash-warning/?sh=997bf4c2501f

[6] http://www.gov.cn/xinwen/2021-03/13/content_5592681.htm

Section 2: North American Bitcoin Mining

Bitcoin mining requires specialized hardware, software, data center space and reliable power. Its profitability depends on: 1. Purpose-built ASIC semiconductor chips created primarily for mining. Large mining operations, or farms, invest heavily in ASIC-based computers. 2. Substantially sized data centers to hold large quantities of ASIC machines. These data centers are often situated in places once dependent on heavy industry, capitalizing on the abundant electricity infrastructure and "on-grid" electrical energy 3. Cost-effective power. Mining profitability hinges on achieving a balance between computational power and energy consumption, necessitating a constant monitoring of energy prices and allocation of computational resources. Some facilities, especially in Texas, utilize flare gas from natural gas wells. Known as "flare mining"[7] and "off grid mining" these sites are considered a sustainable form of energy consumption for Bitcoin mining. With flare mining, gas companies need to reduce flare to meet regulatory requirements, and Bitcoin miners use generators to convert cheap, excess flare gas to electrical energy to mine Bitcoin.

US Bitcoin Mining Facilities

The US produces roughly 38% of the global Bitcoin hash rate. The hash rate is the total combined computational power that is used to mine and process transactions on the Bitcoin blockchain. But finding the locations of Bitcoin mining facilities is challenging. Companies often keep their locations and relationships opaque to avoid becoming targets of community opposition to environmental concerns such as noise pollution. While the Department of Energy (DoE)

[7] https://braiins.com/blog/from-flare-to-fortune-mining-bitcoin-off-grid-with-stranded-gas

claims 137 commercial-scale mining facilities exist in the US, we identified at least 50 more. Mines are located in 21 states, largely clustered in Texas, Georgia, and New York, and new facility construction has not slowed down. (See Figure 1) A 221MW BitDeer-owned datacenter in Ohio began construction in February 2024.

Figure 1: Bitcoin Mines in the US by power size (in MW)

Texas contains ~28.5% of America's hash rate[8] and the largest concentration of mines in the US, no surprise given Governor Greg Abbott's support of cryptocurrency initiatives, the state's deregulated electricity market, and its promotion of renewable energy. Five of the largest mining operations are in Texas, along with 35 additional mines. Texas Senate Bill 1929[9]

[8] https://www.cnbc.com/2023/09/26/where-are-Bitcoin-miners-in-2023-texas.html
[9] https://capitol.texas.gov/tlodocs/88R/billtext/html/SB01929S.htm

tightened the relationship between large mining facilities and the Electric Reliability Council of Texas (ERCOT), provider of 90% of the state's power, by ensuring that miners consuming 75 megawatts (MW) or more power register with the Public Utilities Commission (PUC) as large load operators. Integration of large loads into the ERCOT systems helps ERCOT manage large electric loads. Texas House Bill 591[10] incentivized mining facility owners to use wasted and flared gas by providing tax exemptions. Renewable energy sources like solar, biomass and wind provide one-fourth of the state's electrical power, and are increasingly used for mining facilities.

Due to its deregulated power market, wholesale electricity rates in Texas are some of the lowest in the nation, at $.02 per kilowatt-hour. Miners run computers at full capacity when power is cheap. If they participate in the ERCOT demand-response program, they pre-purchase power at favorable pre-negotiated rates and can then sell the excess power back to the grid when electricity is expensive during peak periods, at $.18 cents or more per kilowatt-hour.

Bitcoin Mining Industry Trends

Hardware Supply Chain Consolidation

High startup costs and decreasing profits have reduced the number of Bitcoin mining facility owners and operators. But the ASIC hardware market is expected to reach $5B by 2032.[11] ASIC semiconductors are primarily sourced from Taiwan Semiconductor Manufacturing Co (TSMC), whose foundry is equipped to fabricate custom-built 5 nm, and soon 2 nm chips. After obtaining ASICs from Taiwan, companies assemble the mining computers in China. Bitmain remains the dominant global supplier, followed by Canaan, MicroBT, Intelion, Nvidia and

[10] https://capitol.texas.gov/BillLookup/Text.aspx?LegSess=88R&Bill=HB591
[11] https://www.alliedmarketresearch.com/cryptocurrency-mining-hardware-market

Bitfury. Their equipment shipments to the US have increased fifteen fold in the past three years[12]. Bitmain also runs numerous mining facilities in the US, including a large one in Texas.

The supply chain security risks that exist due to a handful of companies dominating the market cannot be overemphasized. The firmware running on Bitmain's equipment had an unauthenticated back door called Antbleed which transmitted information to a central service several times an hour, allowing Bitmain or a bad actor to shut off equipment or target specific machines. While touted as a "feature to allow customers to disable stolen miners", the back door allowed easy access to mining equipment. Bitmain supposedly rectified this issue in 2017[13].

Bitcoin Miners and Energy Sales

Bitcoin mining has become less lucrative, a trend that will continue after the Bitcoin halving in Spring 2024, when the number of available Bitcoin is cut in half, and block reward fees dwindle to 3.125 Bitcoin per successfully mined block. Many mining firms have therefore focused on the profitability from their participation either in demand response programs in which they voluntarily curtail electricity consumption during peak demand, or via bulk power purchase agreements. This strategy is advantageous for grid operators because it ensures that miners provide a stable source of demand for electricity and shut down operations when consumer demand spikes. Favorable electricity rates provide the necessary incentive for participation in bulk purchase agreements. When the decline in cryptocurrency prices in 2022 impacted miners' earnings from block reward fees, many sold excess energy back to the grid[14] for record profits.

[12] https://www.nytimes.com/2023/10/13/us/Bitcoin-mines-china-united-states.html
[13] https://blog.bitmain.com/en/antminer-firmware-update-april-2017/
[14] https://fortune.com/crypto/2022/08/16/Bitcoin-mining-crypto-winter-stronghold-digital-selling-electricity/

Several companies made more money from this practice than from Bitcoin mining, particularly in locations with hot summer temperatures.

Securing lucrative contracts with power companies is vital for profitability and grid stabilization. As part of its participation in Texas' ERCOT demand response initiative, for example, Riot Blockchain turned off its mining machines in the hottest summer months, earning $9.5M by selling power back to the Texas grid in August 2022, $13.5M in June 2023 and $31.7M in August 2023.[15] By October 2023, Riot saw a 261% year-over-year increase in profitability from demand response credits.[16] This practice also occurs during the winter. Riot resold $125M of electricity back to the grid during the February 2021 storm. Cipher Mines made $1.2M from such sales in June 2023, warranting the addition of a "Power Sales Equivalent BTC line item" on their quarterly report. 360 Mining made ten times more from natural gas sales than from mining in 2023.[17]

Section 3: National Security Implications of Bitcoin Mining

The connection between Bitcoin mining facilities and the power grid has become a credible risk with the real possibility of cascading power failures affecting consumers. It has also become a national security threat, as more mines and the associated power contracts are under the control and ownership of foreign owned companies.[18] Academic work has shown that power

[15]https://www.riotplatforms.com/riot-reports-full-year-2022-financial-results-current-operational-and-financial-highlights/

[16]https://www.riotplatforms.com/news-media/press-releases/detail/159/riot-announces-august-2023-production-and-operations-updates

[17] https://techxplore.com/news/2023-11-texas-power-crypto-profits.html

[18] https://www.nytimes.com/2023/10/13/us/Bitcoin-mines-china-united-states.html

attacks on data centers via computer workloads are possible.[19] Mining facilities enable a unique energy grid attack vector since many of them have a direct connection to a power generating source in order to avoid the costs associated with connecting to a legacy electric transmission or distribution company. In several states, power companies built new power infrastructure specifically for mining facilities. An ERCOT analysis on the impact of Large Loads on the Texas grid showed that, "In Texas…..some mines' unpredictable behavior could result in "emergency conditions."[20]

Power Grid Fragility and Vulnerability

The Cybersecurity and Infrastructure Security Agency (CISA) defines critical infrastructure as, "systems and assets that are so vital that their incapacitation or destruction would have a debilitating effect on security, the economy, public health, public safety, or any combination thereof."[21] The Federal government and security companies have raised alarms about threats to US critical infrastructure, especially the energy grid, for years, a trend rising with increased remote systems connectivity. The energy grid remains an attractive target for hackers due to vulnerabilities in the aging infrastructure and the mix of public and private control.[22] The US energy system is split into a dozen regions with limited connectivity to transfer power between them, meaning that entire regions are vulnerable to local outages or the effects of regional extreme weather events.

[19] ""Why Some Like It Loud: Timing Power Attacks inMulti-tenant Data Centers Using an Acoustic Side Channel". Islam, Yang, Ranganath, Ren, *Proceedings of the ACM on Measurement and Analysis of Computing Systems Volume 2 Issue 1* (2018)

[20] https://www.ercot.com/calendar/08162023-NPRR1191-and-Related-Revision

[21] https://www.cisa.gov/topics/critical-infrastructure-security-and-resilience/resilience-services/infrastructure-dependency-primer/learn/critical-infrastructure-systems

[22] https://www.gao.gov/blog/securing-US-electricity-grid-cyberattacks

Physical and cyberattacks on the grid are steadily increasing. The Electricity Information Sharing and Analysis Center (E-ISAC) counted 1,700 attacks or suspicious activities against substations and distribution infrastructure in 2022, a 77% increase over the prior year.[23] The threat of 'cascading failures' of multiple downstream components in the aging electric grid prompted the Department of Energy (DoE) grid modernization program, the Building a Better Grid Initiative[24].

The threat of adversarial attacks on US critical infrastructure is also increasing. CISA, NSA, and the FBI recently reported that Chinese cyber actors Volt Typhoon are positioning themselves in the networks of multiple critical infrastructure sectors, including the energy grid, to prepare for destructive cyberattacks.[25] Volt Typhoon has conducted probes of the Texas grid, Internet routers and energy and water systems since 2021. In late 2023, security company Dragos saw "active and ongoing…scanning activities against electric sector organizations in North America".[26] In response, the DoE Office of Cybersecurity, Energy Security, and Emergency Response has ramped up its outreach to the energy sector, saying that threat actors are "...actively positioning…on critical infrastructure IT networks with the explicit goal of being able to disrupt the functioning of operational technology."

In states such as Texas, where mining companies and power providers engage in regular dialog around coordinated mining computer shutdowns during extreme weather, the risk of power failures affecting consumers is well managed. Mining facility loads are fairly predictable, so facility operators can work cooperatively with the grid operator to ensure power is redistributed appropriately during extreme events when mining activity is curtailed. However, in

[23]https://energycommerce.house.gov/posts/chairs-rodgers-griffith-announce-oversight-hearing-on-protecting-america-s-electric-infrastructure

[24] https://www.energy.gov/gdo/building-better-grid-initiative

[25] https://www.cisa.gov/news-events/cybersecurity-advisories/aa24-038a

[26] https://hub.dragos.com/hubfs/312-Year-in-Review/2023/Dragos-2023-Year-in-Review-Full-Report.pdf

states which lack cooperative agreements with grid providers, there remains a scenario in which mining operations are not curtailed during extreme weather, and power to consumers is either unavailable or available at a much higher cost. This scenario was seen in Plattsburgh New York where consumer energy bills increased dramatically.[27]

Bitcoin Energy as a National Security Issue

As of February 2024, commercial cryptocurrency mining companies had been required to submit their electricity consumption information to the DoE's Cryptocurrency Mining Facilities Survey as part of an "emergency request" from the Office of Budget Management (OMB) to identify electricity sources for US miners and locate regions of the United States with concentrated mining activity. The survey required disclosure of mining companies' energy company power purchase agreements.[28] However, it has been temporarily suspended in the wake of a lawsuit by Bitcoin mining company Riot Blockchain in the United States District Court for the Western District of Texas Waco Division.[29]

Section 4: Foreign Ownership, Control, or Influence (FOCI) in Bitcoin Mining

Chinese investments in the US over the past decade total $190B.[30] Land purchases are growing at such a fast pace that 33 states introduced 81 bills in 2023 that would prohibit the Chinese government and China-based businesses from buying farmland or property near military bases.[31] This comes on the heels of an Executive Order expanding the list of factors the

[27] https://www.technologyreview.com/2022/04/18/1049331/bitcoin-cryptocurrency-cryptomining-new-york/

[28] https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=202401-1905-002

[29] https://www.reuters.com/legal/government/bitcoin-mining-groups-sue-biden-administration-over-energy-use-data-demand-2024-02-23/

[30] https://www.aei.org/china-tracker-home/

[31] https://www.washingtonpost.com/politics/2023/08/21/state-laws-chinese-land-ownership-military-bases/

Committee on Foreign Investments in the US (CFIUS) must consider when reviewing transactions for national security risks.[32]

State Owned Enterprises (SOEs) are an important part of China's economy, with their total revenue accounting for almost 70% of China's GDP[33]. China has recently tightened its control over private enterprises such that a large share of companies are neither completely state owned nor completely privately owned, but rather in a gray zone with mixed ownership.[34] While Chinese investments in Bitcoin hardware and facilities represent a small fraction of overall investment, the national security implications are concerning given the outsized impact of mining facilities ties to energy providers and plans from companies such as BitDeer to expand into AI and High Performance Computing (HPC). This emerging trend of gray areas of ownership is often found in cryptocurrency related investments, as are corporate structures with opaque ties to each other and the Chinese government. A New York Times investigation found Chinese-owned or operated Bitcoin mines in at least 12 states, including Arkansas, Ohio, Oklahoma, Tennessee, Texas and Wyoming.[35]

Foreign Investments in Mining, Agriculture and Energy

Texas' 2021 Lone Star Infrastructure Protection Act banned companies owned by foreign adversaries from running a business giving them access to critical infrastructure. Yet, numerous Chinese-owned mining companies operate there and have favorable contracts with regional power companies. Riot Platform's 750 MW Rockdale facility is the biggest mine in North

[32]https://www.whitehouse.gov/briefing-room/statements-releases/2022/09/15/fact-sheet-president-biden-signs-executive-order-to-ensure-robust-reviews-of-evolving-national-security-risks-by-the-committee-on-foreign-investment-in-the-united-states/

[33]https://www.ubs.com/global/en/assetmanagement/insights/thematic-viewpoints/apac-and-emerging/articles/new-scorecard-china-soes.html

[34] https://www.nber.org/system/files/working_papers/w28170/w28170.pdf

[35] https://www.nytimes.com/2023/10/13/us/Bitcoin-mines-china-united-states.html

America, soon to be eclipsed by their 1 GW site in Navarro County. Across the street from Riot Rockdale is a 170 MW facility owned by BitDeer, a company spun out of Chinese hardware manufacturer Bitmain in 2021. Both Riot and BitDeer have agreements with ERCOT and were paid large sums in 2023 to curtail their facility power.

In North Dakota, Chinese actors purchased Fufeng Corn Mill, 15 miles from Grand Forks Air Force Base, home of a space networking center and sensitive drone technology, posing a significant signals collection threat due to its proximity to the base. Air Force officials noted this is part of a pattern of Chinese commercial economic development projects near military installations.[36]

Arkansas Act 636 prohibits foreign-controlled firms from owning land in the state. One of the first enforcement actions was an order for a subsidiary of Syngenta Seeds, owned by Chinese state owned company, China National Chemical Company, to sell its land in Arkansas[37]. However, the Arkansas Data Centers Act - the "Right to Mine" law - sent mixed messages within the state. Mining operators are guaranteed more legal protection because local government restrictions on data center operations are removed. This has enabled Chinese owned mining companies to proliferate in Arkansas by promising economic revival and local investment.

Concerns about foreign owned Bitcoin mining facilities in Arkansas have risen to the state level. Many Arkansas mining company ownership structures are opaque, with the same names appearing on numerous company filings. The Arkansas Attorney General and Secretary of Agriculture investigated mining facility operator Jones Digital and 24 other Arkansas-based mining companies about their Chinese government ties, prompted by national security concerns

[36]https://www.cnbc.com/2022/07/01/chinese-purchase-of-north-dakota-farmland-raises-national-security-concerns-in-washington.html

[37]https://www.reuters.com/business/arkansas-orders-chinese-owned-seed-producer-syngenta-sell-us-farmland-2023-10-17/

raised by the Arkansas Rice Growers Association and private citizens. They concluded that Jones Digital has significant ties to China.[38] Jones Digital shares the same ownership as Arkansas mining companies Newrays One, Green Digital, MetaHash Global, Vilo, Bono Management, Moreland Holdings and potentially others. Green Digital Manager Gang Hu also runs Greenland US Holding Inc., a property development company and subsidiary of Greenland Holding Corp, one of Shanghai's biggest state-owned real estate development enterprises, which is more than half owned by the Chinese government.[39]

Company Spotlight: Ties to the Chinese Government

Bitmain

Bitmain has sold more than a billion dollars of machines to mining centers in the US alone and supplies 90% of the world's Bitcoin mining machines. Bitmain operates one of the world's largest Bitcoin mining pools, Antpool, and invests in mining facility construction. Bitmain entered the US mining facility market in 2019 with construction of a 25 MW facility in Rockdale, Texas. Core Scientific, one of the largest Bitcoin mining companies in North America, recently accepted a $54M investment from Bitmain, and entered into a development agreement with Bitmain and Chinese-owned firm YZY Capital to develop two mining centers in Oklahoma.[40] Bitmain operates at least five subsidiary companies in the United States.

The primary investor in Bitmain is Sequoia Capital, the Silicon Valley venture capital company that backed FTX and ByteDance, the parent of TikTok. But Sequoia's investments in China, especially in dual use AI and military technologies, drew attention from US lawmakers

[38] https://arkansasadvocate.com/wp-content/uploads/2023/12/12.11.23-Act-636-Letters.pdf

[39]https://www.reuters.com/world/china/buttressing-greenland-bailout-chinas-distressed-property-sector-2022-03-15/

[40]https://www.muskogeephoenix.com/news/funding-approved-for-industrial-access-road-for-1-2-billion-project/article_7a61dc0e-ca35-11ec-8fe5-0355c003a33f.html

alarmed by the national security risks. A bipartisan investigation identified Sequoia as one of five venture capital firms investing over $3B in critical technologies enhancing China's semiconductor industry, aiding the Chinese military or enabling human rights violations, including surveillance of the Uyghur people.[41]

Sequoia China was therefore split off from Sequoia Capital in summer 2023 as a new entity named Hong Shan. It is led by billionaire Neil Shen Nanpeng, who served as a member of the National Committee of the Chinese Communist Party and was appointed to the Chinese People's Political Consultative Conference (CPPCC), the top political advisory body for the Chinese government[42]. Another key Bitmain investor is IDG Capital, which has a long list of investments in companies that contribute to military-civil fusion programs in China and has been identified by DoD as a "Chinese military company" in its January 2024 list of sanctioned companies operating directly or indirectly in the United States. [43]

YZY Capital and Polaris Technology

YZY Capital, the New York-based investment arm of Chinese real estate company Youzhiyou Group, invested $100 M to buy 250 acres of land and build two 50MW mining facilities near Tulsa, Oklahoma. Oklahoma Gas and Electric built a $20M substation nearby specifically for the mining facilities.[44] YZY is led by Yuan Qian, a Chinese Communist Party (CCP) member, according to the *New York Times.*[45] Polaris Technology recently announced a

[41]https://selectcommitteeontheccp.house.gov/media/press-releases/committee-report-american-vc-firms-investing-billions-prc-companies-fueling

[42]https://www.forbes.com/sites/kenrapoza/2023/07/26/sequoia-capital-chinas-portfolio-companies-in-washingtons-crosshairs/

[43]https://www.defense.gov/News/Releases/Release/Article/3661985/dod-releases-list-of-peoples-republic-of-china-prc-military-companies-in-accord/

[44]https://www.datacenterdynamics.com/en/news/yzy-capital-proposes-two-50mw-data-centers-in-oklahoma-for-crypto-mining/

[45] https://www.nytimes.com/2023/10/13/us/Bitcoin-mines-china-united-states.html

$100M investment to build a 200MW facility in the same industrial park as one of the YZY data centers, and received shipments of Bitmain miners just prior to the announcement[46]. Polaris was formed in 2023 by COO Meng "Alex" Zhang, previously a Bitmain executive.

Section 5: Wyoming Case Study: Chinese Conglomerates vs. Bison Blockchain

Wyoming has a crypto-friendly legislative climate, passing more than three dozen blockchain and cryptocurrency[47] laws since 2019. Wyoming's leadership on blockchain and crypto can be attributed to a dedicated legislative committee advancing laws in the state: The Select Committee on Blockchain, Financial Technology and Digital Innovation Technology[48]. The Select Committee includes eight elected Wyoming legislators and three unelected individuals appointed by the Governor who serve as liaisons for the public. Caitlin Long, CEO of Custodia Bank, is widely considered one of the most influential individuals[49] [50]in the cryptocurrency industry. Long recently resigned as a liaison member due to her conflicts of interest stemming from her litigation[51] against the Federal Reserve Board of Governors. Other liaisons are Joe Revill, CEO of Two Oceans Trust and member of the Wyoming Stable Token Commission, and Matt Kaufman, an attorney in the blockchain industry and partner at Hathaway and Kunz.

Wyoming provides a favorable geographic climate for mining and data centers due to its cool and arid air, available land, state tax incentives on computing, and its reliable power grid. The North Range Business Park (NRBP) consists of 620 acres of land and has been home since

[46]https://www.datacenterdynamics.com/en/news/crypto-firm-polaris-technology-to-build-200mw-data-center-in-muskogee-oklahoma/

[47]https://www.coindesk.com/consensus-magazine/2023/06/27/wyoming-regulatory-clarity-and-crypto-friendly-banks-fuel-blockchain-revolution/

[48] https://www.wyoleg.gov/Committees/2024/S19

[49] https://tangem.com/en/blog/post/the-greatest-women/

[50] https://www.cryptovantage.com/news/the-top-5-most-influential-women-in-crypto/

[51] https://www.courtlistener.com/docket/63366375/custodia-bank-inc-v-federal-reserve-board-of-governors/

2012 to Microsoft as well as the National Center for Atmospheric Research (NCAR), which provides high performance computing resources for earth scientists and recently announced a new $35 M supercomputer. (See Figure 2)

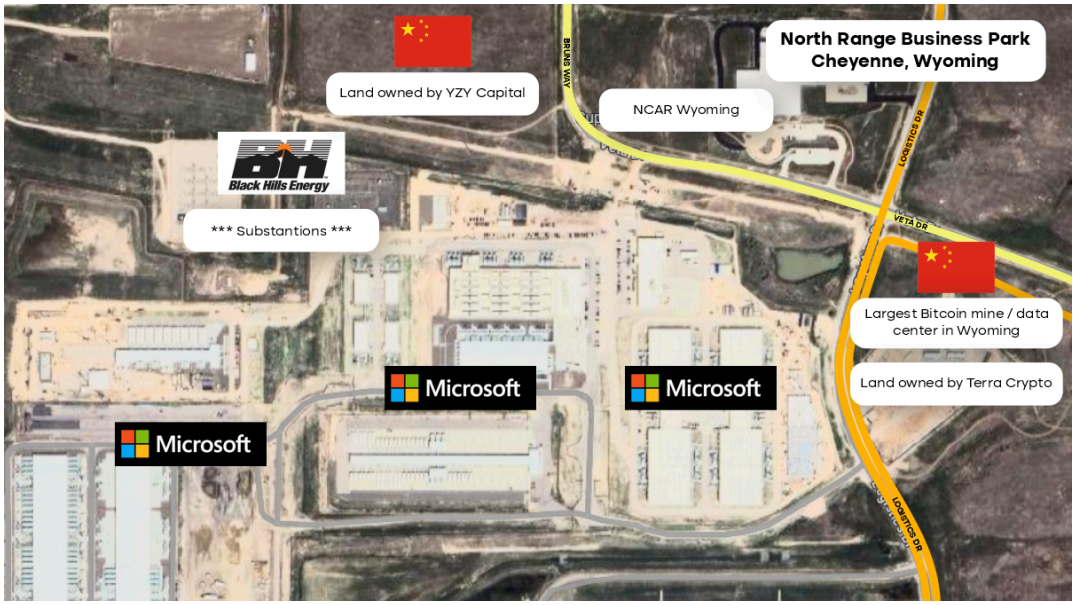

Figure 2: Proximity of Chinese owned land to DoD and National Compute facilities

Wyoming has seen a significant increase of Chinese investment over the past five years. In 2022, Microsoft contacted the Committee on Foreign Investment in the (CFIUS) with concerns about a Chinese-operated cryptocurrency mine in close proximity to Microsoft's DoD-supported data center and only a mile from F.E. Warren Air Force Base (AFB), which houses the 90th Missile Wing supporting Air Force Global Strike Command.

Chinese investments in Bitcoin mining in Wyoming began in 2021, when YZY Capital, the CCP-member led company which invested in two Oklahoma mining sites, bought two parcels of land in Wyoming, one in the North Range Business Park (near Warren AFB) and one at the Campstool Business Park (near substations with available power and critical energy infrastructure). YZY purchased the land months before notice of an official competition by Black Hills Energy (BHE), which issued a Request For Proposal (RFP) under a newly created Blockchain Interruptible Service (BCIS) Tariff, an agreement in which a miner's energy is sourced at wholesale rates. Unlike Texas, Wyoming has a regulated energy market, so companies can not sell back excess power to the grid. Winning the Tariff was necessary to establish operations and mine Bitcoin at an industrial scale.

YZY Capital and 15 other companies, including BitDeer and numerous Chinese Bitcoin miners, submitted proposals. BCB Cheyenne (dba Bison Blockchain), a local Wyoming company, won the five year, on-grid 75 MW power deal with Black Hills. Valued at over $300 M, this represented the largest blockchain deal in Wyoming history.

Due to the aggressive timeline and capital requirements necessitated in the agreement, Bison partnered with New York-based crypto investment company MineOne, which provided proof of necessary funds ($20M+) to purchase the land and build a fully operational mining facility.

Bit Origin and the Chinese Conglomerate

Bit Origin, a publicly traded company on NASDAQ, had previously been known as China Xiangtai Food Co., a pork processing company with no ties to the cryptocurrency industry. Bit Origin hired two cryptocurrency experts in 2021 to lead the shift from pork processing to

cryptocurrency and rebranded as Bit Origin shortly thereafter. The Bit Origin-led Chinese conglomerate of companies began laying the groundwork to obtain land next to Warren AFB just days after an announcement about a strategic intercontinental ballistic missiles (ICBM) modernization at the base[52].

The Chinese Conglomerate and Bison Blockchain Litigation

Bison Blockchain contracted with Mine One and Terra Crypto to serve as the host and facility operator of the North Range and Campstool sites. The two companies never disclosed their relationships to Chinese SOEs or their partnerships with a Bit Origin-led conglomerate of over 25 companies. Owners Jiaming Li and Erick Rengifo are the former President and Chief Strategy Officer of Bit Origin and represent Universal Capital Holdings Group, a New York company dedicated to cross-border strategic acquisition and investment[53] owned by Ding Yi Feng Holdings,[54] an SOE originally called the China Investment Fund[55].

Shortly before the North Range site energized and began mining Bitcoin in April 2023, both companies ceased their contractual payments to Bison and presented a "new deal" removing Bison from site operations altogether and decreasing the contract payments over the five year term. In parallel, Bit Origin and its subsidiaries signed a hosting and services agreement with Bitmain, including 12,000 new Antminer machines.

Bison had contracted a local on-site team to run operations, but without the Mine One and Terra Crypto payments they had no choice but to demobilize from the North Range site and filed for breach of contract and interference against the three companies. Having pushed out

[52] https://www.warren.af.mil/News/Article/2958280/gbsd-coming-to-fe-warren/
[53] https://www.univest.us/team/james-zhao/
[54] http://www.cifund.com.hk/
[55] https://markets.ft.com/data/equities/tearsheet/profile?s=612:HKG

local Wyoming company Bison Blockchain, the conglomerate of foreign owned companies Terra Crypto, MineOne and Bit Origin now own the Wyoming land, power contract, mining infrastructure, and data center operations, with the machines mining Bitcoin for Bitmain's use.

Bit Origin recently secured $6.74M to build and develop the nearby Campstool site, a 25MW mining facility[56] on land originally owned by YZY Capital but sold to Mine One and leased to Bit Origin. It also will host Bitmain miners[57]. The sale was completed with the assistance of YZY's local Wyoming attorney, Matt Kaufman. The lawsuit[58] between Bison Blockchain, the conglomerate and Bitmain is ongoing in Wyoming Federal Court. MineOne and Terra Crypto hired local Wyoming law firm Hathaway and Kunz, the firm that represented YZY Capital. Their lawyer Matt Kaufman remains a member of the Wyoming Legislature's Select Committee, a potential conflict of interest. Given the current and projected expansion of electrical power, Bitmain is mining roughly $4.8M of Bitcoin monthly.

Wyoming Legislation: Foreign Property Ownership and Critical Infrastructure

Two pieces of legislation were recently introduced in Wyoming: *SF0102*[59] - *Foreign Property Ownership-critical infrastructure* and *SJ0002*[60] - *Foreign adversaries-prohibited property ownership.* Both are fashioned after the Arkansas Act prohibiting land ownership by foreign adversaries within 10 miles of critical infrastructure and military installations. The legislation applies to foreign adversaries who own land now as well as future land owners, along with an enforcement mechanism. It would allow for proceeds from any divestiture to be held in escrow to make whole any lien holders or litigation claims pending adjudication.

[56] https://www.sec.gov/Archives/edgar/data/1735556/000110465923125119/tm2332508d1_ex99-1.htm
[57] https://bitorigin.gcs-web.com/node/7466/html
[58] https://dockets.justia.com/docket/wyoming/wydce/1:2023cv00079/63456
[59] https://www.wyoleg.gov/Legislation/2024/SF0102
[60] https://www.wyoleg.gov/Legislation/2024/SJ0002

Section 6: Conclusions and Recommendations

The US-based Bitcoin mining ecosystem is a focal point for national security and geopolitical concerns, highlighting the need for strategic oversight and protection against foreign influence or attack. The Chinese approach digital assets as another method of influence on US critical infrastructure. Exports of mining equipment, software, investments in land, blockchain technologies, and systems tied into US critical infrastructure are tangible means by which to control cryptocurrency production and affect infrastructure.

While a lot of attention has been given to Bitcoin's negative environmental impact and use of electricity, its ties to critical infrastructure and the traditional financial sector have received less focus.

Some of the key takeaways from mapping of the US Bitcoin mining system include:

1. Hash power, obtained through computing and processing blocks, enables influence over Bitcoin. As China indirectly gains more hash power via its ownership of mining equipment and facilities, its influence over the ecosystem and its price dynamics grows. Acquiring a substantial portion of the Bitcoin mining network could allow China to influence transactions or disrupt the network's stability.
2. Although the Financial Services Sector is one of CISA's sixteen critical infrastructure sectors, the Sector Specific Plan hasn't been updated since 2015, long before digital currency entered the mainstream financial markets. CISA's definition of the Financial Services Sector should be updated to include crypto assets so that crypto can be overseen by Federal cybersecurity agencies.

3. The US must continue to increase support for manufacturing of smaller nanometer chips in order to pose alternatives to semiconductor supply chains from China and Taiwan.
4. The US needs more proactive oversight of foreign investments in critical infrastructure. Although the Committee on Foreign Investment in the United States (CFIUS) monitors foreign acquisitions of sensitive companies, it has no prescriptive definition of critical infrastructure nor enforcement power. Because state-level laws on foreign land ownership vary, there is no comprehensive understanding of the breadth and scope of the foreign investments across industries and regions.
5. Federal security agencies (*e.g.,* DoD, AirForce OSI, CISA, DHS) are positioned with resources and expertise to guide and assist state governments with intelligence to identify critical infrastructure at risk of interference by foreign adversaries. Currently, investigations are at the local level.
6. Although China has officially banned Bitcoin mining, it continues to fund mining in the US, along with reaping the benefits of using US regional power providers.