Power-Hungry Crypto and AI

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We tend to take electricity for granted, but that luxury may not last forever. Two major new factors—bitcoin manufacturing and artificial intelligence-specific servers—are now gulping more terawatt hours than any comparable innovations in history.

To be specific, bitcoin's annual energy consumption reached 173 terawatt hours in 2025—an astonishing 0.78% of the entire global electricity demand, roughly comparable to the energy consumption of Poland. Every single bitcoin transaction consumes 1,335 kilowatt hours of energy, roughly equivalent to the power consumed by an average U.S. household in 45 days. A competing cryptocurrency, Ethereum, uses 840 kilowatt hours for every transaction.

Meanwhile, the U.S. currently houses 3,000 AI data centers around the country, run by tech giants like Amazon and Microsoft. AI models are loaded onto clusters of servers each containing special chips called graphics processing units (GPUs) that have a voracious appetite for electricity. A large data center might have more than 10,000 of these chips connected together, along with a network of fans to keep them from overheating. A recent article in the MIT Technology Review estimated that AI servers today consume between 53 and 76 terawatt hours a year, enough to power roughly 7.2 million homes for a year. In all, data centers use roughly the amount of electricity that it takes to power the nation of Thailand.

And AI technology is still catching on. As more people spend more time recruiting 'AI assistants for writing, graphic design and helping them think through problems, that figure is likely to rise exponentially. By 2028, the most conservative estimates suggest that AI-specific power consumption will reach 165 to 326 terawatt hours per year—12% of all electricity consumed in the U.S.

Between crypto and AI, electricity bills have risen about 6% nationwide in the last few years, which means that all of us are bearing the cost of new infrastructure and power facilities that have to be built to accommodate the strain caused by new sources of demand. In addition, because of the heat generated by the newer chips, data centers are consuming ever-increasing amounts of another endangered commodity: fresh water. Researchers at UC Riverside have estimated that the global use of AI could require as much fresh water in 2027 as that now used by four to six countries the size of Denmark.

So far, we haven't seen blackouts in areas like Silicon Valley, Austin, TX or northern Virginia, which have the heaviest concentrations of data center buildings. We haven't seen dramatic shortages of fresh water. But give it a few years; these are headlines waiting to happen.

Sources:

https://coinlaw.io/bitcoin-energy-consumption-statistics/

https://www.technologyreview.com/2025/05/20/1116327/ai-energy-usage-climate-footprint-big-tech/

https://www.pbs.org/newshour/show/how-ai-infrastructure-is-driving-a-sharp-rise-in-electricity-bills

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Jeffrey Broadhurst
MBA, CFA, CFP
Broadhurst Financial Advisors, Inc.

Our physical and mail address:
1911 West Point Pike
P.O. Box 301
West Point, PA 19486-0301

Contact us:
Phone: (215) 325-1595
Email: jeff@broadhurstfinancial.com