Bitcoin’s energy use drops following price plunge

After taking a nosedive in June, the price of Bitcoin has stayed so low that it’s forcing the blockchain’s massive electricity use to similarly dip. Over the past couple weeks, Bitcoin’s energy consumption has dropped by more than a third, according to estimates of annualized electricity use by digital currency economist Alex de Vries on his website digiconomist.net.

Bitcoin’s energy hunger, which has alarmed environmentalists and consumer advocates concerned about pollution and utility prices, comes from the process of mining new tokens. Bitcoin miners earn new tokens by validating transactions through an inherently energy-inefficient process, using specialized machines to solve complex puzzles. All that computing by all those machines has led to an energy appetite rivaling that of entire nations.

Bitcoin’s annualized energy consumption has fallen from about 204 terawatt-hours (TWh) per year on June 11th to around 132 TWh per year on June 23rd. But even though its electricity use has plunged, it’s still very high — roughly equivalent to the amount of electricity Argentina uses in a single year.

Just how much energy the Bitcoin network uses is tied to its value. The more valuable it is, the more incentive there is for miners to ramp up operations — perhaps by buying new machines. The price of Bitcoin peaked in November 2021, reaching around $69,000. Since that peak, de Vries estimated that the blockchain’s annual electricity consumption ranged between roughly 180 and 200 TWh. That’s about the same amount of electricity used by all the data centers in the world every

year.

Bitcoin’s value has fallen for months, but it didn’t result in an immediate drop in energy use

Bitcoin’s value has fallen for months, but it didn’t result in an immediate drop in energy use because the price stayed above a key threshold. If the price stays above $25,200, the Bitcoin network can sustain mining operations that use up about 180 TWh annually, according to research de Vries published last year. Since miners have already invested in their machines, they’ll likely keep them running as long as they can turn some profit earning tokens.

The problem is that if the price of Bitcoin gets too low, then miners risk losing money in electricity costs. So they might pause or retire older, less efficient machines that are becoming unprofitable, which is what we’re starting to see now. The value of a Bitcoin has lingered below $24,000 since June 13th. “We’re getting to price levels where it is becoming more challenging [for miners],” de Vries told *The Verge* that day. “Where it’s not just limiting their options to grow further, but it’s actually going to be impacting their day-to-day operations.”

And it’s not just Bitcoin. Ethereum uses the same energy-intensive process to maintain its ledger. Its price has similarly plummeted this month, although it has rebounded somewhat over the past week. Ethereum’s estimated electricity use yesterday was nearly half of what it was in late May.

There’s been a big push to clean up cryptocurrencies. Some blockchains are much less energy-intensive because, unlike Bitcoin (and Ethereum for now), they don’t use puzzle-solving to validate transactions. Using renewable energy can get rid of emissions, but skeptics are still worried about crypto miners competing with nearby residents for electricity in that scenario. There’s even been a Crypto Climate Accord proposed to figure out how to get rid of emissions. The problem they’re

all trying to solve will continue as long as some blockchains like Bitcoin continue to eat up vast amounts of electricity.

https://www.theverge.com/2022/6/24/23181683/bitcoin-ethereum-energy-use-drops-price-plunge