

# Searching for sustainable cryptocurrency alternatives

Tesla CEO Elon Musk has said the company will no longer accept bitcoin due to environmental concerns, three months after facilitating the purchase of its electric vehicles with the cryptocurrency. Tesla has said it will retain the digital currency and enable its use when it becomes more sustainable.

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Image Source: [Coin Companion](#)

Tesla's initial willingness to accept bitcoin showcases the rise in popularity cryptocurrencies have achieved over the past decade. As we've pointed out previously, however, questions over its [carbon footprint](#) persist.

## Why is it energy intensive?

Bitcoin uses miners who act as auditors – verifying transactions to prevent double spending before adding multiple transactions (blocks) to the chain. Verification involves solving a complex cryptographic hashing puzzle which requires significant computing power – usually comprising of a GPU (graphics processing unit) or an application specific integrated circuit (ASIC). This approach is called Proof of Work (PoW) and rewards miners in

bitcoin for their efforts – if successful.

Using fossil fuels to power mining rigs is the main point of concern. China's bitcoin mining is responsible for 80% of the digital currency's global trade and its reliance on fossil fuels is projected to generate 130.5 million metric tons of carbon emissions by 2024 if left unchecked.

## Changing attitudes

China's 2060 carbon neutrality goal, however, is leading to a clampdown on mining operations in the country. The Chinese province of Inner Mongolia, for example, once housed one of largest bitcoin mining networks, but its reliance on fossil fuels forced the government to shut down operations. The province has recently set up a hotline to report suspected bitcoin mining activity.

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Bitcoin's environmental footprint comes back into the spotlight

## A different approach

A greener method – Proof of Stake (PoS) – is now being suggested as an alternative to PoW. PoW miners are often forced to convert their bitcoin mining rewards into fiat currency to pay for their electricity consumption. PoS only allows miners to mine bitcoin in relation to the amount of bitcoin they currently hold. If, for example, they own 4% of the coins, they can only mine 4% of the blocks – reducing the computational power on the network. Ethereum – the second largest cryptocurrency – will shift its infrastructure from PoW to the PoS model by the end of 2021.

## “Green” cryptos

Crypto alternatives are beginning to emerge claiming to offer a more sustainable solution. Cardano, for example, already uses the PoS approach with its co-founder (also a co-founder of ethereum) claiming the network uses less

energy than 0.01% of bitcoin's network.

Alternatively, Chia relies on Proof of Spacetime (PoSt) – a technique that uses empty computer storage space to house cryptographic data as proof of authenticity. Despite using less electricity, the method can reduce hard drive shelf life from 10 years to 40 days – creating an e-waste issue.

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