

BITCOIN USE CAUSING HUGE CO2 EMISSIONS: STUDY

Relevant for: Environment | Topic: Environmental Degradation - GHGs, Ozone Depletion and Climate Change

Representation of the Bitcoin virtual currency standing on a PC motherboard is seen in this illustration picture, February 3, 2018. | Photo Credit: [Reuters](#)

The use of Bitcoin — a popular virtual currency — emits over 22 megatonnes of carbon dioxide annually, comparable to the total emissions of cities such as Las Vegas and Vienna, a study has found.

Researchers from Technical University of Munich (TUM) in Germany carried out a detailed calculation of the carbon footprint of the Bitcoin system.

For a Bitcoin transfer to be executed and validated, a mathematical puzzle must be solved by an arbitrary computer in the global Bitcoin network. The network, which anyone can join, rewards the puzzle solvers in Bitcoin.

The computing capacity used in this process — known as Bitcoin mining — has increased rapidly in recent years. Statistics show that it quadrupled in 2018 alone.

Consequently, the Bitcoin boom raises the question of whether the cryptocurrency is imposing an additional burden on the climate.

Several studies have attempted to quantify the CO2 emissions caused by Bitcoin mining.

“These studies are based on a number of approximations, however,” said Christian Stoll, who conducts the research at the Technical University of Munich (TUM) and the Massachusetts Institute of Technology (MIT).

The team began by calculating the power consumption of the network. This depends primarily on the hardware used for Bitcoin mining. The researchers determined the annual electricity consumption by Bitcoin, as of November 2018, to be about 46 TWh.

Live tracking data from the mining pools provided the decisive information on how much energy is emitted by carbon dioxide is emitted with the use of this energy. The IP addresses in the statistics published by the two biggest pools showed that miners tend to join pools in or near their home countries.

Based on these data, the team was able to localise 68% of the Bitcoin network computing power in Asian countries, 17% in European countries, and 15% in North America.

The researchers also cross-checked this conclusion against the results of another method by localising the IP addresses of individual miners using an internet of things search engine. They then combined their results with statistics on the carbon intensity of power generation in the various countries.

The Bitcoin system has a carbon footprint of between 22 and 22.9 megatonnes per year. That is comparable to the footprint of such cities as Hamburg, Vienna or Las Vegas.

“Naturally there are bigger factors contributing to climate change. However, the carbon footprint is big enough to make it worth discussing the possibility of regulating cryptocurrency mining in

regions where power generation is especially carbon-intensive,” said Stoll.

“To improve the ecological balance, one possibility might be to link more mining farms to additional renewable generating capacity,” he said.

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The Chinese smartphone manufacturer's latest offering performs as good and, at times, better than its counterparts while costing way lesser

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