Cryptocurrency environmental and energy issues

Maybe digital currencies are here to stay for the foreseeable future. This is no longer an arguable topic. They are bringing tangible benefits to both businesses and customers, including faster, more reliable, and less expensive transactions with greater transparency than ever before. However, as the crypto industry evolves, sustainability must become a priority. It is easier to facilitate environmental sustainability today than to reverse it later.

Even though the so-called “internet money” has witnessed substantial cost and consumer growth, many environmentalists are concerned about crypto mining being a high energy-consuming process, which could lead to amplified greenhouse gases release into the atmosphere. For example, in recent years, the volume of energy used by the Bitcoin network has skyrocketed significantly. Consequently, it uses more energy now than in some individual countries. For example, this usage has already surpassed the one of Argentina in 2021.

Not all cryptocurrencies have a negative influence on the environment. Many of them do not engage in mining in any form. However, there are critical factors to keep in mind when it comes to cryptocurrency mining:

- China, which generates the majority of its energy from coal, is home to more than 60 percent of crypto miners.
- Bitcoin activities produce an enormous amount of e-waste every year.
- According to the latest data, the Bitcoin network electricity consumption is higher than 133 TWh a year.

The huge amounts of energy required for crypto mining are the most serious threat to the currency's long-term survival since as bitcoin's value climbs, miners must use more energy to obtain it. The highest worries among ecologists are raised by the fact that with the increase in the bitcoin price level, mining also becomes less effective. This means that to handle the same quantity of transactions, the network will need more energy over time.

All the above-mentioned facts directly connect crypto mining to carbon dioxide emissions. According to analysts, China is the place for more than half of all bitcoin mining. The fact that the country's primary source of electricity is coal makes bitcoin mining a substantial reason for environmental pollution and climate change.

The negative influence of Bitcoin on the environment is not limited to the volume of energy it uses. The bitcoin industry also generates a lot of electronic waste. Digital mining is done with single-purpose devices that become outdated every 1.5 years. The energy efficiency of modern mining equipment is constantly improving, which means that devices will surely become outdated regularly causing more e-garbage to appear each day.

Cryptocurrency supporters, on the other hand, have minimized the problem of Bitcoin's energy usage, stating that mining companies tend to cluster around locations with abundant “green” energy. According to a survey published by CoinShares, a digital assets management firm, today, more than 70% of the electricity used to operate the bitcoin network has been produced with the help of renewable sources of energy. Still, much of the mining energy is generated by burning coal.

Environmentalists and enthusiasts all over the globe have been aware of all these issues. Here are some major solutions that have been offered to reduce the cryptocurrency ecological problems.

Elon Musk has banned Tesla's acceptance of bitcoin. As a result, since peaking in April 2021, the cryptocurrency has lost more than half of its value. Musk also initiated the establishment of a Bitcoin

Mining Council to advance bitcoin's long-term viability. Tesla's action should serve as a wake-up call to businesses and customers who have not previously considered the cryptocurrency's carbon trace.

There are also propositions to change the bitcoin’s proof-of-work mechanism to a proof-of-stake one, which does not need so much energy, reducing the amount of currency one user owns. However, most of the analytics do not consider these propositions realistic. In turn, they offer to consider some currencies, like NXT and Dash, as an alternative to bitcoin, since they already use the proof-of-stake system.

Imposing a carbon tax on miners would also be an effective means to encourage greener mining and reducing carbon emissions caused by the process.

Does it mean that the problem of Bitcoin’s negative impact on the environment can be easily solved by using renewable energy? Sadly, the answer at the moment is – no, because renewable energy is fairly expensive and not so widely implemented for now.

Experts are sure, that understanding the harm that mining causes to the environment will not lead to the significant elimination of this type of activity. Large firms, banks, and investors are trying to calm the public with donations to charity and promises of freedom from control in the implementation of financial transactions in cryptocurrency. Yet, the most important question: Are the pros of Bitcoin outweigh its negative impact on the environment? - remains unanswered.