Committee on Energy and Commerce

Opening Statement as Prepared for Delivery
of
Subcommittee on Oversight and Investigations Chair Diana DeGette

Hearing on "Cleaning up Cryptocurrency: The Energy Impacts of Blockchains"

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Today, the Subcommittee will examine the rapidly growing energy and environmental impacts that accompany the "mining" of certain cryptocurrencies.

Cryptocurrencies rely on blockchain technologies, which are essentially networks made up of many computers working collaboratively to record and verify data.

Blockchain technology has numerous potential applications beyond cryptocurrency that will likely soon make our lives more efficient and secure. Health care records, for example, will become more portable and accessible to patients. Energy management will improve through the use of smart contracts. And, due to data being distributed across a network rather than in a centralized location, our online information will be more secure. New, innovative uses of blockchain technology are being explored every day, and we should continue to encourage that.

As this innovation continues, however, it is important that we keep energy efficiency and the reduction of carbon emissions at the forefront of the discussion. And that is why we are here today.

Different blockchains use different methods to add new data and verify the integrity of the blockchain, and the method chosen can have important implications for a blockchain's energy use.

One method in particular, called Proof of Work, involves millions of computers racing to be the first to solve a complicated puzzle and be rewarded a valuable prize—new cryptocurrency coins or tokens.

This competitive process—and the energy consumption associated with it—is inherent to the Proof of Work model.

Currently, the two largest cryptocurrency networks, Bitcoin and Ethereum, use Proof of Work.

On these networks, the financial incentives to have your computer be the computer that solves the puzzle and wins the prize are substantial.

For example, earlier this month, a computer that successfully recorded a new block of transactions on the Bitcoin network was awarded 6.25 bitcoins, worth about $270,000. And, in the Bitcoin network, that award happens every 10 minutes.

These high financial rewards incentivize cryptominers to constantly increase their computing power. This in turn increases their need for inexpensive, reliable energy.

We know not all cryptomining companies respond to this need the same way.

Some cryptomining companies have based their facilities in communities with cleaner and less expensive renewable energy, such as hydroelectric, wind, and solar.

Others, however, have revitalized or prolonged the use of otherwise-shuttered fossil fuel plants. For example, one company in upstate New York upgraded a previously closed coal-power plant to run on natural gas—a plant which now operates primarily for the purpose of the company's bitcoin mining activities. Another company restarted two coal-fired plants in Pennsylvania in order to generate power for its cryptomining operations.

Given our current climate objectives, examples like these are deeply concerning. Our focus now should be on reducing carbon emissions overall and increasing the share of green energy on the grid.

The unique energy demands of the cryptomining industry do present some potential benefits, although how these will play out in practice still remains to be seen.

Cryptominers could play an important role in balancing and stabilizing the grid. For example, cryptominers have the capacity to quickly reduce their energy consumption during periods of peak demand. This demand-response capability could be vital not only during times of crisis, like last year's Texas freeze, but also in managing the day-to-day peaks and valleys of renewable energy generation.

While this sounds promising, it is important to understand the degree to which this is actually being done, and whether communities can actually benefit from this flexibility. We look forward to discussing this in greater detail today.

Another area of concern is the high volume of electronic waste generated from cryptomining—estimated at more than 30 thousand metric tons from the Bitcoin network alone in 2021.

Most cryptomining computers are now custom-made for mining activities and cannot be repurposed for any other use. These machines quickly become obsolete, resulting in a great deal of electronic waste that is hard to recycle or dispose of safely.

As the industry moves forward, it is crucial for cryptocurrency networks to identify ways to reduce the need for constant high-volume energy use and minimize negative effects on the environment.

Cryptocurrency's presence in everyday life will likely continue to expand, and this Committee should remain at the forefront of understanding and guiding that reality. We should be sure that as we develop novel and helpful uses for blockchain technology that we are also minimizing any resulting energy and environmental impacts.

I want to thank the witnesses for their testimony and their expertise in helping us better understand this growing industry and its demands on the energy grid and the environment.

We look forward to learning more here today and continuing to engage on how we can drive innovation as we strive to meet our climate goals.