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Client Alert

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The Ethereum Merge: Key Takeaways and Potential Regulatory Impact

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The Merge is complete. A massive and long-anticipated software update to the Ethereum blockchain, the Merge went into effect on Thursday, September 15. Its implications are far reaching. The Ethereum blockchain is a pillar of the cryptocurrency environment—its native token, ether (ETH), represents the second-largest cryptocurrency by market capitalization. This article provides an explanation of the Merge, an overview of why it matters and insight on how regulators might respond.

What Is the Merge?

The Merge, as the name suggests, is the merger of two blockchains: the existing Ethereum Mainnet and the Beacon Chain, the consensus layer. The implementation of the Beacon Chain converts the Ethereum blockchain from a proof-of-work system to a proof-of-stake system. These systems are known as "consensus mechanisms," standards of operation under which participants ("nodes") verify and record transactions on the distributed ledger.

Proof-of-work is the traditional consensus mechanism, employed by Bitcoin and, prior to the Merge, Ethereum. In proof-of-work systems, participants compete against each other by running complex computations in a race to solve a cryptographic problem. Whichever "miner" solves the problem the fastest is allowed to update the blockchain, and their update becomes the authoritative version of the ledger. The winning miner earns some amount of the network's token as a reward, while the losing miners proceed to confirm the winner's work and thereby verify the transaction.

Because winning the race requires significant computational resources, successful proof-of-work mining likewise drives significant power consumption. Proof-of-work incentivizes miners to outpace their competitors by using more energy-intensive mining hardware. This phenomenon has led regulators to criticize the cryptocurrency industry for

its environmental impact and prompted industry actors to explore opportunities to improve cryptocurrency sustainability, including by considering alternative consensus mechanisms.

Proof-of-stake is fundamentally different from proof-of-work. Rather than have miners simultaneously racing to verify a transaction, proof-of-stake relies on "validators" to participate in a virtual lottery. Validators "stake" their personal assets—in the case of post-Merge Ethereum, 32 ETH, worth roughly $50,000 as of the date of the Merge—for the chance to update the blockchain. Lottery winners are randomly chosen. The winner creates the new block of transactions added to the ledger and is rewarded with additional ETH.

Operational Consequences of the Merge

The Merge has several important ramifications, including the reduced environmental impact of Ethereum's operation. By some estimates, the shift from proof-of-work to proof-of-stake will reduce Ethereum's energy consumption by roughly 99.5%. Environmental benefits produced by the Merge may thus quell some of the regulatory concerns originally raised by proof-of-work mining facilities.

An additional, albeit indirect, consequence of the Merge may be reduced user participation costs. Transactions conducted on the Ethereum blockchain incur transaction fees (known as "gas fees") and lag times. Although the Merge will not directly address the network's gas fees or transaction times, it will make it easier to design future upgrades that address fees, including several novel solutions proposed by Ethereum's co-founder, Vitalik Buterin.

Regulatory Impact

The Merge has also recently caught the attention of several regulators. For example, the Merge has prompted new discussion about how ETH fits within the federal securities laws—an area that had been perceived as settled for several years. In 2018, the SEC's former Director of the Division of Corporation Finance William Hinman stated that "current offers and sales of Ether are not securities transactions." Director Hinman premised this statement on the reasoning that Ethereum's lack of a "central third party" and ETH's utility as an instrument of exchange do not satisfy the Howey test, which meant that ETH would not be an "investment contract" within the meaning of the federal securities laws. Yet, following the Merge, SEC Chairman Gary Gensler suggested an openness to reevaluating that position, arguing that proof-of-stake is "another indicia that under the Howey test, the investing public is anticipating profits based on the efforts of others."

Separately, Chairman Rostin Behnam of the U.S. Commodities and Futures Trading Commission (CFTC) commented on the Merge from the viewpoint of environmental regulations. Testifying in front of Congress on September 15, just hours after the Merge completed, Chairman Behnam advocated for passing the Digital Commodities Consumer Protection Act (DCCPA). The proposed legislation, which would require the CFTC to author reports on significant sources of energy consumption, could expand the CFTC's jurisdiction over digital assets. Chairman Behnam specifically highlighted the Merge as a "step in the right direction" for the fintech industry but insisted that the CFTC still exercise its reporting authority over the cryptocurrency sector. Chairman Behnam's comments may suggest that further adoption of proof-of-stake protocols across blockchain ecosystems could reduce the industry's exposure to reporting requirements under the DCCPA.

Although Chairman Gensler and Chairman Behnam's comments are not necessarily indicative of any specific policy changes, they shed light on how regulators may respond to more widespread proof-of-stake adoption in the future. The blockchain landscape is still relatively new, so regulatory actions remain uncertain at this time.

Next Steps

The Merge represents the largest example of proof-of-stake adoption among major blockchain protocols, and regulatory and market reactions over the coming months will elucidate the potential risks and benefits. Based on the immediate aftermath of the Merge, blockchain ecosystem participants who are considering engaging with proof-of-stake systems should consider the potential impact of that activity on their environmental, commodities, securities, and other regulatory compliance obligations. Ecosystem participants should monitor ongoing legal and technological developments to assess the impacts on their digital asset activities.

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