

The scoping plan emphasizes low-carbon procurement, workforce development, and incentive-based measures, and posits that near-term emissions reductions will come from energy efficiency and limited electrification, while longer-term reductions will depend on innovation including low-carbon fuels and carbon capture and storage (CCS).

The final scoping plan must clarify that this chapter's objective is to promote climate and environmental justice, not business development. There must be support and leverage of public procurement to promote low-carbon materials; demand-side changes may be made to reduce materials waste.

Industrial heat should be electrified wherever feasible. Reliance on green hydrogen must be limited, especially where hydrogen combustion would overburden disadvantaged communities. We need data collection and reporting requirements to accurately show how industrial facilities impact these communities.

The sector of this chapter must omit any reliance on carbon capture and sequestration, (CCS) which is not a true zero-emissions measure.

Last but not the least, the final plan should call for a permanent moratorium on proof-of-work cryptocurrency mining—an enormously energy-intensive industry that threatens our climate goals. Even if such mining operations use renewable energy, they undermine our climate goals because this renewable energy could be used to displace carbon-intensive energy for other productive sectors of our economy.

In 2021, Bitcoin was used in 0.012% (about 100 million) of the total global noncash transactions (about 840 billion), yet its energy consumption (estimated at about 104–198 TWh) rivaled that of the entire global banking system (about 140 TWh), which handled the remaining 99.988% of the transactions. It is important to note that a vast majority of these 0.012% Bitcoin transactions were simply trades, and did not represent useful payments for goods or services. To make matters worse, Bitcoin periodically undergoes “halving” events in order to maintain artificial scarcity, with the next halving expected in 2024. Each halving event doubles the amount of energy required to mine one Bitcoin. These staggering statistics highlight a few issues, in addition to the well-known ones associated with electricity use and the related GHG emissions.

First, with this kind of energy requirement and the associated costs, it is nearly impossible for Bitcoin (or any proof-of-work cryptocurrency) to serve as an inexpensive, democratized, and decentralized universal currency as its proponents misleadingly claim; its very design prevents it from scaling. There are tremendous costs associated with Bitcoin's mining and block-chain operations that are eventually borne by everyone holding Bitcoins. This makes Bitcoin a particularly poor investment vehicle. Anyone who owns Bitcoins essentially has an “asset” that has continual costs, but produces nothing of value. The only way for this investment to grow is by means of a price appreciation caused solely by the demand exceeding the supply. It will inevitably run out of new buyers, thereby halting the uptrend in prices while the operating costs continue to mount.

Secondly, the 2024 halving will not only double the energy costs of Bitcoin mining, it will also likely exacerbate the already egregious E-waste problem associated with such mining operations. The reason is that it will slow down the rate at which new Bitcoins can be mined, therefore it will necessitate upgrades to faster hardware. If the price of Bitcoin does not appreciate sufficiently to cover its escalating costs, mounting losses may force some mining

operations to close down. Even before the halving, mining costs have been going up with rising energy prices while the revenues are in a decline in line with Bitcoin's price. Power stations as well as data centers require methodical and expensive decommissioning. Unchecked proliferation of power stations and data centers for mining cryptocurrency risks leaving taxpayers liable for the decommissioning and disposal costs if and when the owners of these facilities become insolvent during an inevitable downturn in the cryptocurrency market.

Like bubbles in any market, it is impossible to predict cryptocurrencies' boom and bust time frames. Until the proof-of-work cryptocurrency bubble bursts completely, it has the potential to destabilize electric grids, raise consumers' electricity costs, and continue contributing to the global semiconductor chip shortage from its insatiable appetite for new computer hardware, in addition to contributing to GHG emissions.