What is bitcoin halving – and will it affect the price?

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Satoshi Nakamoto, the pseudonymous creator of bitcoin, still has an influence on the cryptocurrency nearly 14 years after disappearing. This week the protocol designed by Nakamoto – an individual or group of individuals who went silent in December 2010 – will trigger what is known as a “bitcoin halving”, a process that has coincided with price increases in the past. The latest halving is expected to take place on Saturday. Here we explain what the bitcoin halving entails and its potential impact. What is bitcoin halving? It is related to how bitcoins are recorded and created. Transactions in the cryptocurrency are recorded on a universally accessible ledger called a blockchain. These transactions are put on the blockchain by “miners” who pack them into blocks that are then linked – or “chained” – together. They do this by solving a cryptographic puzzle using specialised hardware and – this is the key bit – receive a reward in newly created bitcoins. Nakamoto intended the number of bitcoins entering circulation to be finite, at 21m, so the protocol seeks to control the amount of new coins entering the market. It does this by halving the size of the miners’ reward every 210,000 blocks – roughly every four years. The latest halving is expected to take place in the early hours of Saturday in the US and UK, when the reward for adding a new block of transactions to the blockchain will decrease from 6.25 bitcoins to 3.125. Bitcoin – of which there are more than 19m in circulation – will continue to halve until the 21m point is reached, expected in 2140. What will the impact be on the bitcoin price? Halving reduces the supply of new bitcoins, which should in theory increase the price. It is an economic axiom that if demand for an asset remains stable while its supply decreases, its price should go up. The past three halvings – in 2020, 2016 and 2012 – have resulted in an average price increase of 16% over the 60 days that followed, according to data from the asset research firm 10x Research. The 2016 halving resulted in a decrease of 6% over the following 60 days, although it then rallied strongly throughout 2017. Markus Thielen, the head of research at 10x, says the halving is “associated with price increases due to reduced supply” but investors will have to wait for a price peak, which typically comes 500 days after a halving. In recent weeks bitcoin has fallen sharply from a recent record high of more than $70,000 (£56,175) to about $62,000 but it remains a strongly performing asset, up 40% so far in 2024 and more than double where it was at the same time last year. It is worth noting that while prices ultimately rose after the 2016 and 2020 halvings, they underwent prolonged dips – so-called “crypto winters” in 2018 and 2022 where prices underwent a prolonged dip. “The setup feels really familiar to past occasions where there has been a very sharp rally and it forms a top … then breaks,” says Neil Wilson, the chief analyst at the brokerage firm Finalto. Analysts at Deutsche Bank wrote on Thursday that the halving was “already partially priced in by the market” and that they did “not expect prices to increase significantly following the halving event”. Will there be a negative impact? Bitcoin mining companies, which take on the energy and equipment costs of validating transactions, face a financial hit as their reward drops. Andrew O’Neill, the managing director of the digital assets research lab at the credit ratings firm S&P Global, wrote this week: “The block reward remains a significant part of miners’ revenue, therefore halving the reward impacts profitability." He added: "Some operations will become non-profitable and will shut down as result, particularly those with higher energy costs." To make bitcoin mining financially sustainable, S&P says, the currency will need to be used more widely throughout the global economy in order to increase miners' revenues via transaction fees. However, greater use of the cryptocurrency jars with concerns that energy-intensive bitcoin mining is already environmentally unsustainable. There is also, for bitcoin's many critics, the negative impact of amateur investors being lured in by any price rise – and hype – that follows the halving. Bitcoin has gained in legitimacy this year, increasing its price, with US Securities and Exchange Commission permitting exchange-traded funds (ETFs) – a basket of assets that can be bought and sold like shares on an exchange – that track the price of the cryptocurrency. Nonetheless, the chair of the SEC, Gary Gensler, was begrudging in giving the go-ahead, describing bitcoin as a volatile asset used for "illicit activity including ransomware, money laundering, sanction evasion, and terrorist financing". O'Neill is also sceptical that there will be a price boom. "The BTC [bitcoin] market is in a very different place to when the prior halvings occurred four, eight and 12 years ago," he says. "Other drivers such as the growth of BTC ETFs in the US, and macro drivers such as interest rates and market liquidity, will also influence price." Carol Alexander, a professor of finance at the University of Sussex business school, says any price boost from the halving will ultimately be illusory. "It will probably go above the all-time high but in the long run its value will be zero because there is no intrinsic value in bitcoin whatsoever," she says. "It's simply a speculative asset."