

Cryptocurrency

Market Outlook

Bitcoin: Mining, Scarcity, And Why The Price May Push To \$150,000

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Summary

- Computing power and speed are pushing the need for greater amounts of expenditures to mine.
- With continuously fewer coins released, the system is designed to see continued price increases.
- The next four year period will see an increase of Bitcoin's price into six figures.

I run a mining operation in New Mexico. Simultaneously, I have helped set up a few systems for friends around the country where they mine on a hobby level. It gets more and more difficult to continuously increase capacity while maintaining efficiency. That is by design. And, that is why ultimately, given a continued increase in usage, the price of Bitcoin ([BTC-USD](#)) will move higher and higher.

I wanted to discuss the difficulties in mining and how that relates to the price of Bitcoin moving higher.

I wrote an article last week here on Seeking Alpha about Metcalf's Law and how the connectivity of the system feeds upon itself and applies to Ethereum ([ETH-USD](#)). More and more individuals are likely to be drawn into the crypto world and that will continuously push up price. In my article from last week, I laid out the case of why [Ethereum will replicate Bitcoin's move to \\$20k](#). Metcalf's Law states that with more connections within a communications system price will continually rise. This will be one of the variables that push Bitcoin up higher as well.

However, instead of delving back into Metcalf's Law, with this analysis, I needed to address multiple requests I got about information regarding our mining operations and how this all plays into cryptocurrencies, scarcity of coins, and the difficulty factor of mining.

To start, here is a really, really brief and simplified overview of mining:

There will be a total of 21M Bitcoins when it is all said and done; [we are currently at ~18.5M](#). When Bitcoin was created the world was melting from the Financial Crisis during 2008 - 2009. Central banks around the world were stepping in and printing enormous amounts of money out of thin air. The presupposition was that this would lead to runaway inflation.

Bitcoin was created to be the opposite of what a fiat currency was. There was only ever going to be a fixed number of coins available so that no central bank could step in and devalue the value of the crypto coins. By design, there is a limited amount of supply.

Mining is a process where new coins are released into the system. This is what we have done for many years down in New Mexico. By mining, our computers try and solve complex mathematical formulas and guess a code, of sorts. Our computers make about a million guesses per second. If we guess correctly, a new coin is released into the system and we get a piece of that.

I don't want to go too far into the mechanics of that math and how that works. Instead, I want to focus on the mechanics of this process.

With Bitcoin mining, basically, all you do is start up a computer and then run software. This software does all of the dirty work of the mathematics involved in mining. When your computer solves one of these problems you get paid.

But, think that through and you start to see what is going on in the mining world and why that is pushing price higher and higher for Bitcoin.

Imagine you were able to sit your laptop down on the dining room table and run software and because of what that software was running you earned money via Bitcoins. All you had to do was power up your laptop and run

a piece of software and you got paid without any new inputs from you. Likely, if the money was that easy to make you would go all in.

Now, imagine that the system that enabled this easy money making method progressively became more difficult to achieve. But, if you upgraded a few components on your laptop/computer, such as a video card, memory, or microprocessor, you could earn slightly more than anyone who did not upgrade. This would result in a competition of computing speed. The person with the fastest most powerful computing potential wins and earns more Bitcoin.

What would the end result be?

An arms race.

This is Bitcoin mining. And, for the record, your laptop would not even be slightly competitive in this market. In fact, the video cards we are running are getting very cost-prohibitive as we devour more and more capabilities. I recently looked online for new video cards that retail for about \$800.00 brand new. They were selling for nearly twice their retail price. Bitcoin is getting so lofty in price that the mechanics of the process make it more profitable and very attractive. After all, a small piece of a coin valued at \$40k is worth a lot more than the same sized piece of a coin valued at only \$10k.

The biggest obstacle is the cost of electricity. As these computers and the video cards we use get faster and faster, the energy consumption runs through the roof. And, so does the heat. We often joke that the back house where everything is running probably pops up as a major heat source viewable from space. And, we aren't even running that many decks comparatively. In the wintertime, we open the windows as wide as we can to help regulate the heat. In the summer, we push many homemade gadgets such as a system that freezes a giant tub of water on the roof at night and then in the daytime, the melting water is used to push air through to cool the systems.

The electricity inputs are the biggest prohibitor to mining and earning money. It all really boils down to the cost of electricity.

Our advantage is that we use solar panels and have several in the back yard of my friend's home. We have

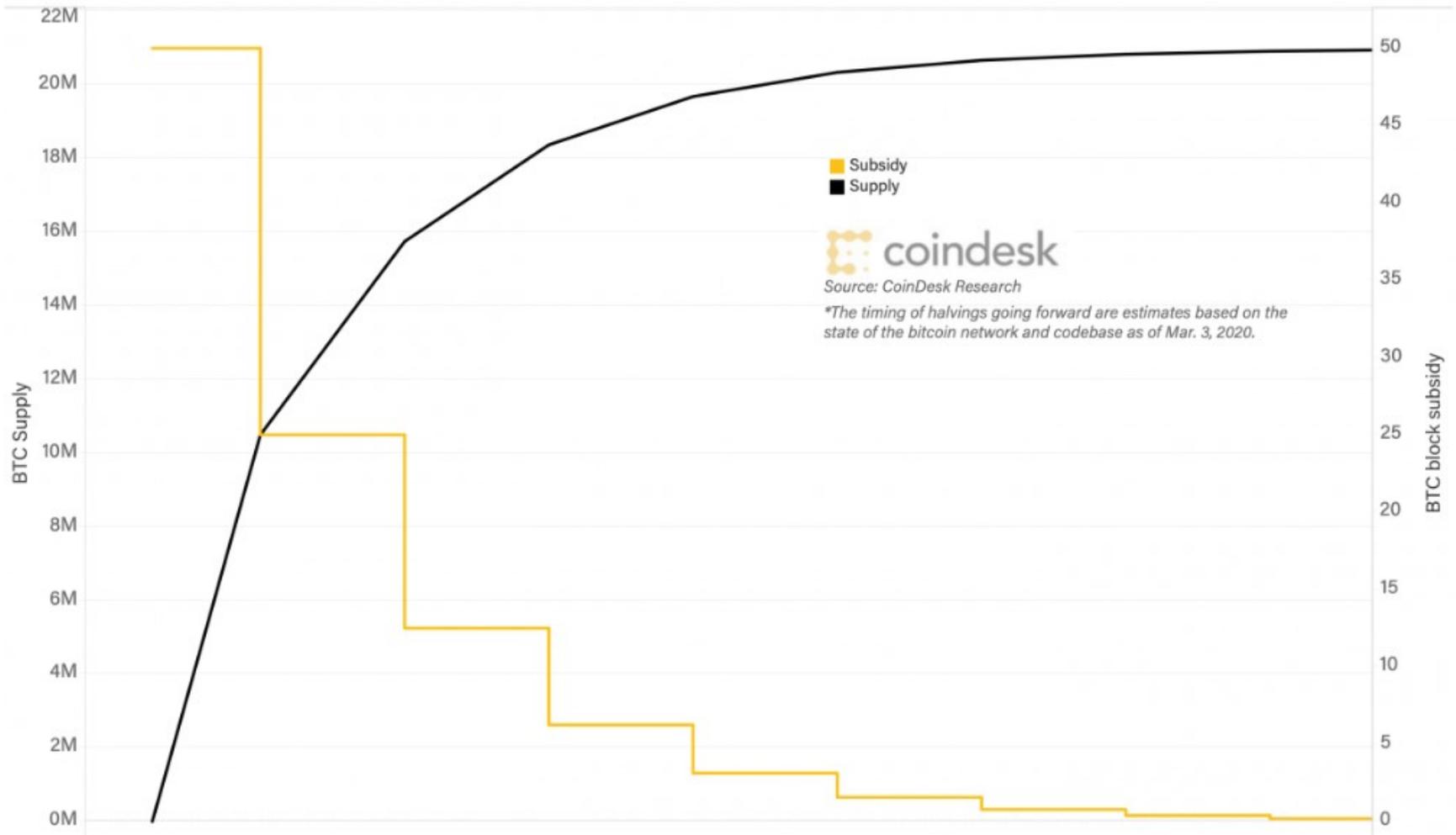
batteries that we use to collect electricity to store for overnight use. This enables us to collect solar energy all day with the sun and store that so we can mine 24 hours per day.

So, what this becomes is an engineering problem. Determining if you are going to be profitable boils down to the cost of the computers, solar panels (which are now very inexpensive), batteries, and ultimately, what is the price of Bitcoin.

As more and more individuals get involved in Bitcoin, there is greater and greater demand for the coins. But, as time goes by, there are fewer and fewer coins available.

Here is a graph from coindesk.com showing what the supply of Bitcoins looks like as the offerings play out:

Bitcoin supply and block subsidy by year



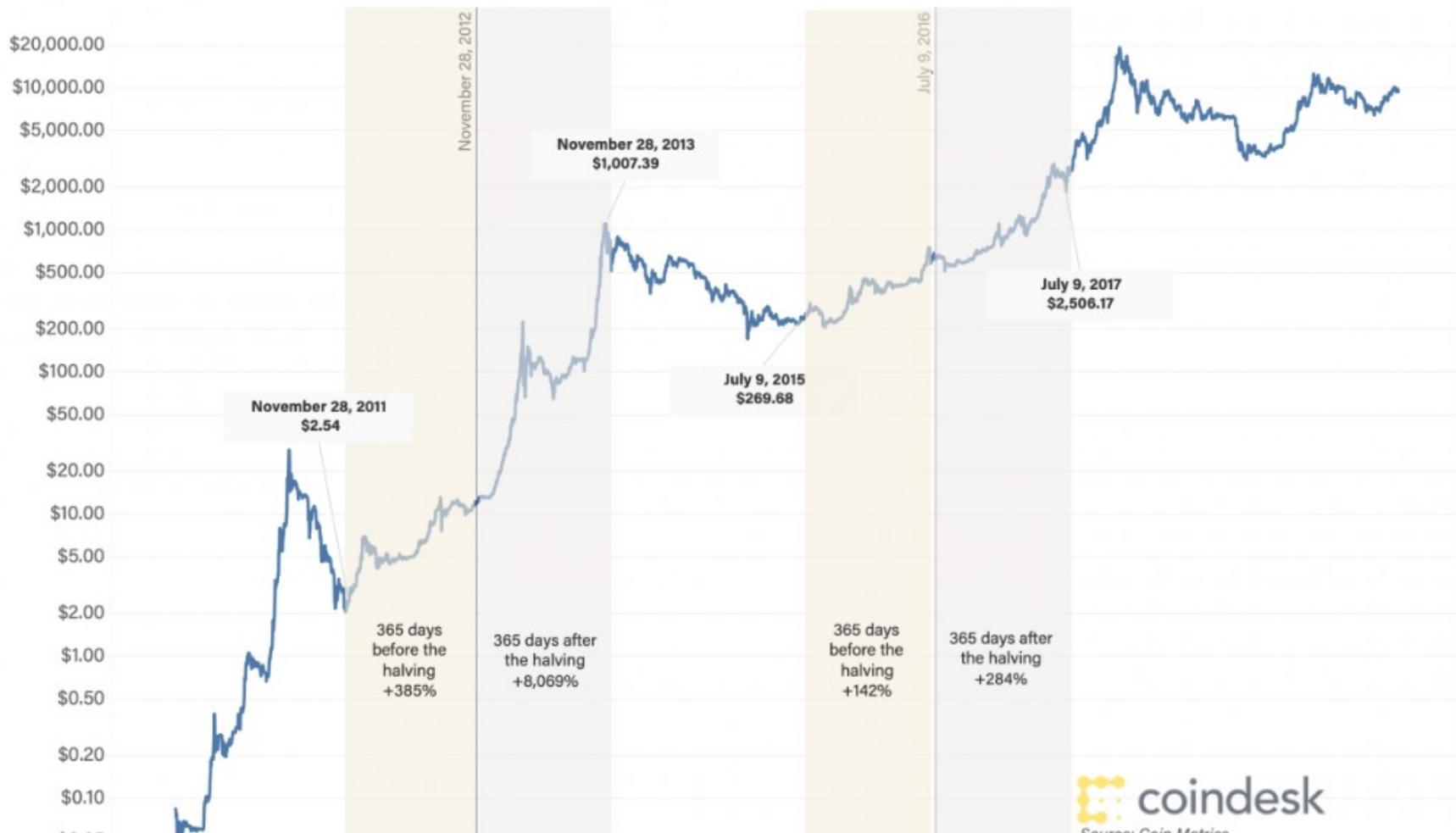
(Chart Source: coindesk.com)

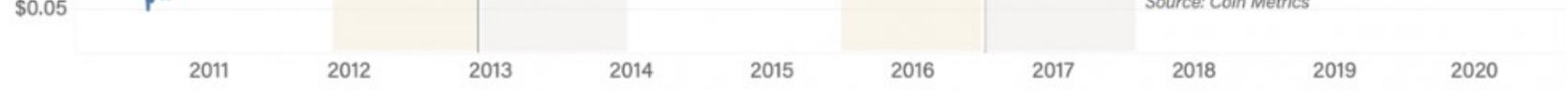
As you can see in the chart, fewer and fewer coins are made available.

In fact, last year was a halving year ([They occur every four years](#)) and this may have had an effect on the price of Bitcoin with the most recent price surge. There have been many debates as to what would occur leading up to a halving.

Again, coindesk.com shows a great chart of the past two run-ups with BTC-USD in connection to the halving:

BTC price run-ups around the first and second halving





(Chart Source: coindesk.com)

At first, when you look at the chart above while you see the significant run-up in price if you were to overlay the two charts I've just shown, the number of coins offered and the rate of the climb in the price of Bitcoin you see that the rate is declining along with coin availability.

That all gets obliterated with the most recent price chart on Bitcoin:

ByDHTaylor published on TradingView.com, January 24, 2021 18:21:01 MST
 BITSTAMP:BTCUSD, 1M 32596.91 ▲ +308.08 (+0.95%) O:28999.63 H:42000.00 L:27734.00 C:32596.91





TradingView

(Chart Source: Trading View)

By design, Bitcoin gets more and more difficult to mine. The reason is that each sequential addition gets slightly more complicated.

The halving rate was supposed to be a method to keep price down. I have absolutely no idea of how releasing sequentially fewer and fewer coins would ultimately keep price down. It makes no sense to me whatsoever. The very basic elements of economics state that as supply dwindles price must go up to meet continued increases in demand.

If you look at the chart above, or if you go backward and look more closely at charting periods of Bitcoin right around the halving period you will see that every time the halving timeframe occurred, there were significant price increases. This just happened. And, it happened around 2016 when Bitcoin first ran up to ~\$20k. And, 2012 has a run-up in price as well.

I expect that in four more years there will be yet another period of sharp price increases. But, what might also happen is that people are starting to see this pattern appear more and more. Because of that, individuals are likely to front-run this next halving period. This could create even more price increases.

But, be cautious. Look at the charts above. They are not straight lines upward. These price movements have been in surges. Then, BTC moves lower. Much lower. I distinctly remember in late 2018 where BTC pushed towards \$3k. I thought about throwing in the towel altogether. Glad I did not. The latest moves higher may not get eclipsed for quite some time. And, this all is predicated on the past repeating itself.

Then there is Metcalf's Law. As I stated in my initial article, my expectation was that Ethereum would push for \$20k. The theory is that as more and more individuals get involved in a communications system it pushes up

price as the number of possible connections increases. This was studied with Facebook and Bitcoin. There is a strong correlation. There were also a few commenters on that particular article that do not appear to see the correlation, which is fine.

However, I can see the rationale behind this. As more and more people draw into the system and as the price rises, this makes headline news. That attracts more individuals. As more and more individuals get into the system more connections are made. And, as more connections are made the ability to use Bitcoin increases.

I mentioned the amount of energy being consumed by the computers we use to mine. Mining is free money if you ask me. All I do is continuously invest in new upgrades. Then, we mine and profits keep flowing in. The investment dollars are usually paid off in 3 - 6 months. And, if we did not have free energy coming from the sky it would take far longer to pay off these investments. All the while, there are enormous amounts of energy being expended with mining Bitcoin. There was [a study in 2019 that suggested 0.2% of energy consumption throughout the entire world](#) went to Bitcoin mining. That is exasperating when I think about it.

Effectively, Bitcoin is becoming a giant global warming hazard.

But, the only way that more mining will continue is if the cost inputs are paid off by higher and higher prices. And, as more and more price increases pull in more participants, this will continually feed upon itself.

The clock is ticking on the next halving. And, as the price of Bitcoin continues to rise, more and more participants will enter and push up price. My expectation is that over the next 3.5 years or so we will eclipse the latest peak by a significant magnitude.

Knowing what I know of the mechanics of mining; knowing what I know of the halving; knowing how this is playing out in the media, I could visualize Bitcoin being priced with 6 figures.

Disclosure: I am/we are long BTC-USD. I wrote this article myself, and it expresses my own opinions. I am not receiving compensation for it (other than from Seeking Alpha). I have no business relationship with any company whose stock is mentioned in this article.

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