



Bitcoin Network Q1 2023 Overview

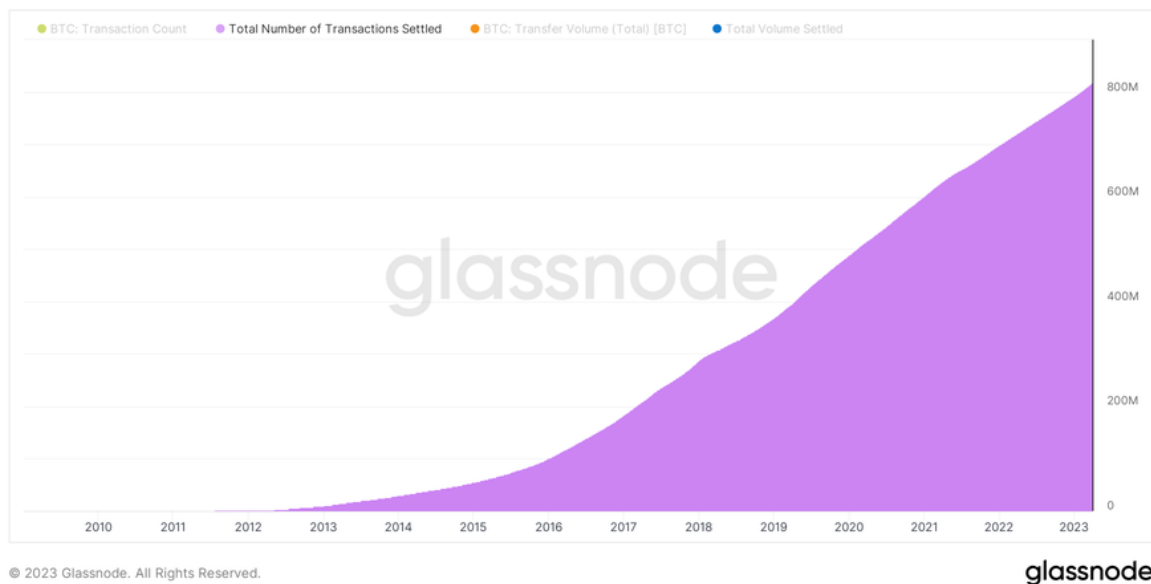
Amidst Bitcoin's best quarterly price performance since early 2021, the network has seen a large uptick in several measures of activity including the explosion of Ordinals

Bitcoin's first quarter of 2023 was one for the books, putting up its best quarterly price performance since early 2021. However, outside of the price performance, underneath the hood there have been several interesting developments for the network itself. This quarterly overview intends to highlight some of those key network developments, showing that the Bitcoin network is stronger than ever.

Core Network Activity

In the first quarter, the Bitcoin network crossed a milestone of settling 800 million transactions for a cumulative value of over \$107 trillion. This is a tremendous feat for the decentralized network that has only been in existence for just over 13 years.

BTC: Transaction Count



Active addresses on the network have continued their grind up since 2021, continually making higher lows despite macro uncertainty and turmoil in the centralized crypto infrastructure space. While many tourists leave the network after major bull markets, an increasing number of network participants stay during every bear market.

Bitcoin: Number of Active Addresses (30d Moving Average)

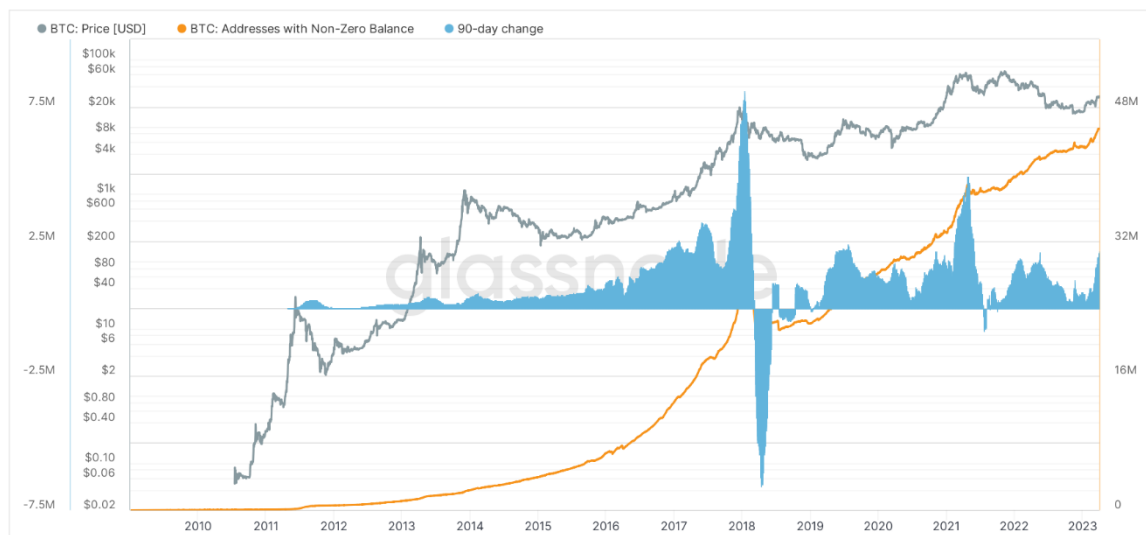


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The number of Bitcoin addresses with a non-zero balance saw tremendous growth throughout the quarter, not only climbing to new all-time highs, but achieving one the highest rates of growth since early 2021.

BTC: Addresses with Non-Zero Balance



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Looking at the 30 day and 365 day moving averages of new addresses as a proxy for momentum in new address growth, we can see the rate of growth in new addresses in addition to the previous chart looking at non-zero addresses. Paired with a very full mempool, we can conclude that Bitcoin is seeing real vibrant underlying network activity.

Bitcoin: New Address Momentum

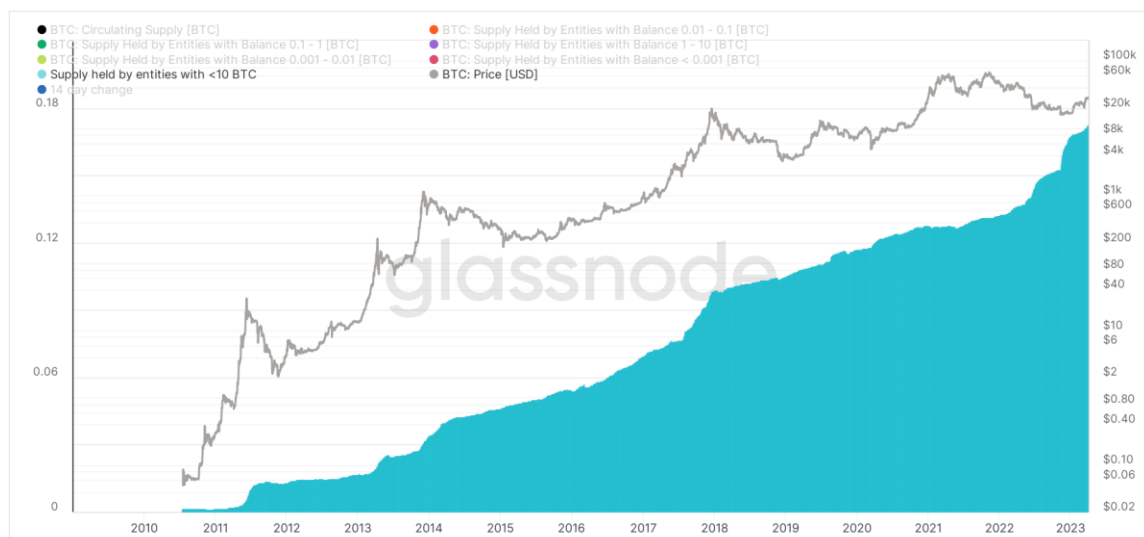


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Partially as a byproduct of this new address growth, we've seen the amount of supply held by entities with less than 10 BTC (~\$280K) soar to new all-time highs; now over 17% of supply. This is even more notable when considering that most on-chain entities that hold large amounts of Bitcoin are exchanges/custodial solutions that hold Bitcoin on behalf of millions of individuals. Over time Bitcoin's supply distribution continues to become more favorable.

Supply held by entities with <10 BTC



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The Ordinal Effect

The largest story from a network usage perspective for Bitcoin in Q1 was the explosion of ordinals. Created by Casey Rodarmor, Ord allows individuals to inscribe text and images on-chain which are inscribed to individual Satoshis (smallest divisible units of Bitcoin) using a loophole in Taproot; a protocol upgrade to Bitcoin that was introduced and soft forked into implementation in late 2021. There has been a tremendous amount of controversy

within the Bitcoin community around the growth of ordinals. One camp expresses concerns around slower downloads for nodes and more competition for real economic transactions, while the other camp expresses excitement around heightened network activity and fees for miners, which is ultimately good for security. Regardless of your individual opinion one thing is for sure; they saw significant growth in Q1 and that is visible in blockchain data. First, we can see a large increase in the adoption and utilization of Taproot, the protocol upgrade that ordinals were made possible with.

Bitcoin: Taproot Adoption (14d Moving Average)

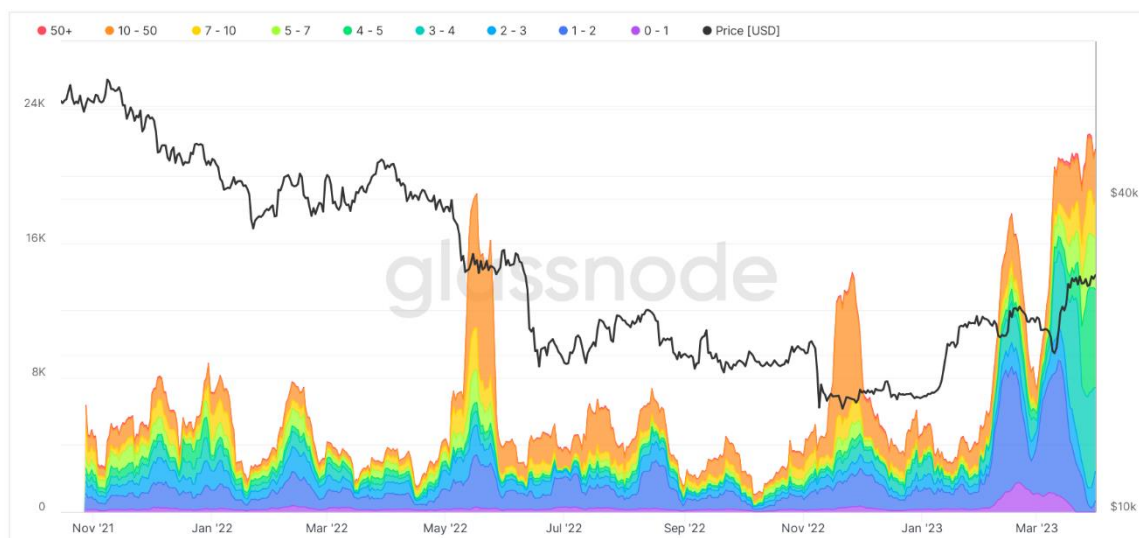


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We've also seen the mempool for Bitcoin transactions explode, which is essentially the backlog of transactions waiting to get into blocks. This is evident both looking at the number of transactions in the mempool as well as the size of transactions. This means that network users must pay higher fees to incentivize miners to include their transactions in blocks. This increase in fees is ultimately a good thing for Bitcoin miners that are on the receiving end.

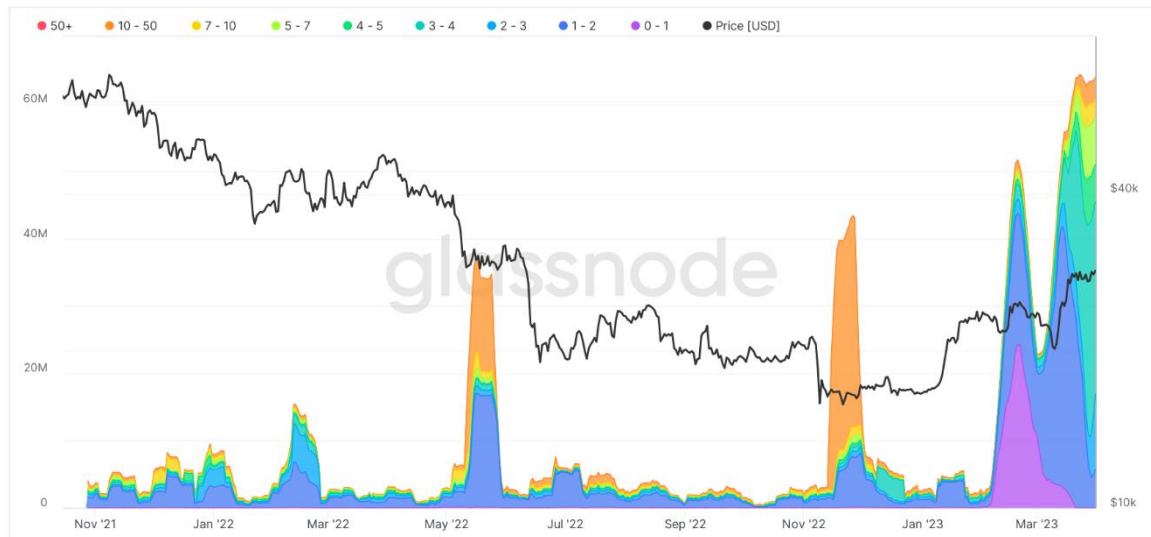
Bitcoin: Mempool Number of Transactions by Cohort (14d Moving Average)



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Bitcoin: Mempool Total Size of Transactions by Cohort (vByte) (14d Moving Average)



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Miners

The growth of ordinals and Bitcoin's price rally have caused increased transaction activity that is translating to higher fees for miners, being reflected in the value of total transaction fees outright as well as the percentage of miner revenue from fees.

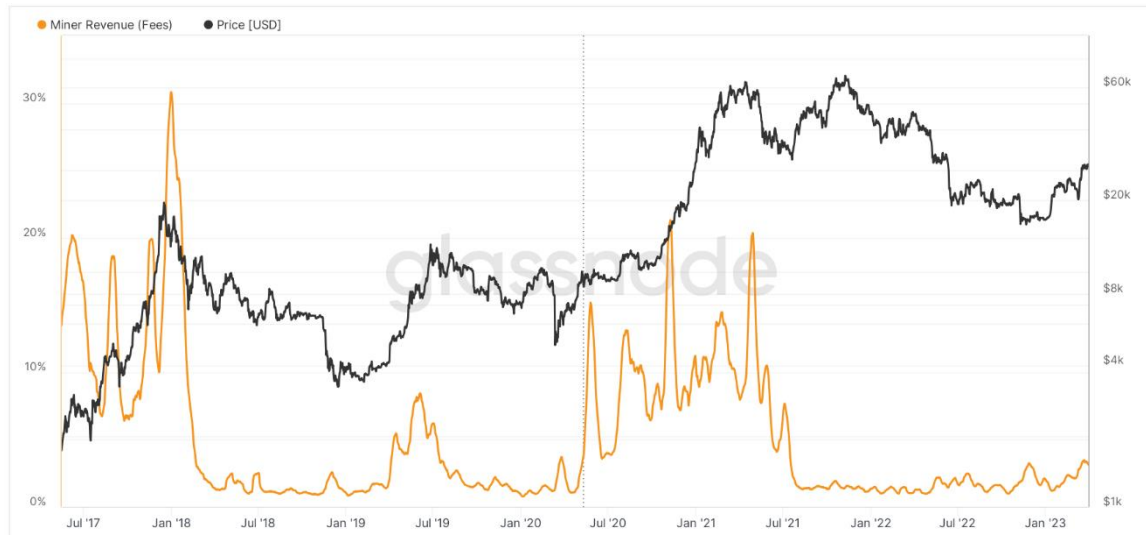
Bitcoin: Total Transaction Fees [USD] (14d Moving Average)



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Bitcoin: Percent Miner Revenue from Fees (14d Moving Average)

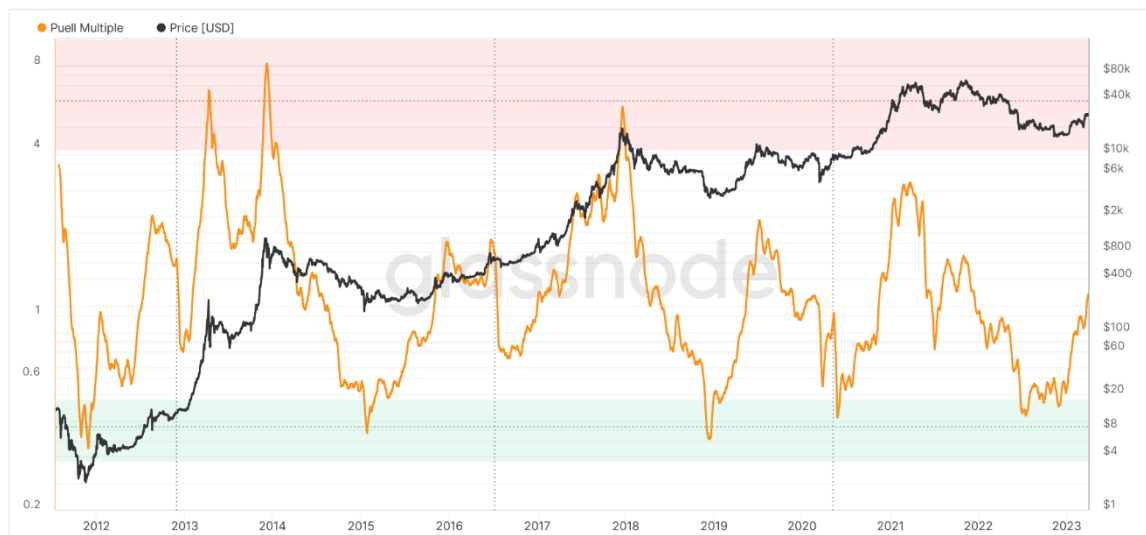


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While fees are rising, the dollar value of Bitcoin's 900 BTC daily issuance has gone up 70% from just over \$15 million to just over \$25 million a day. This large rebound in the USD value of issuance relative to its trailing 365 moving average is reflected in the metric below titled the Puell Multiple.

Bitcoin: Puell Multiple (14d Moving Average)

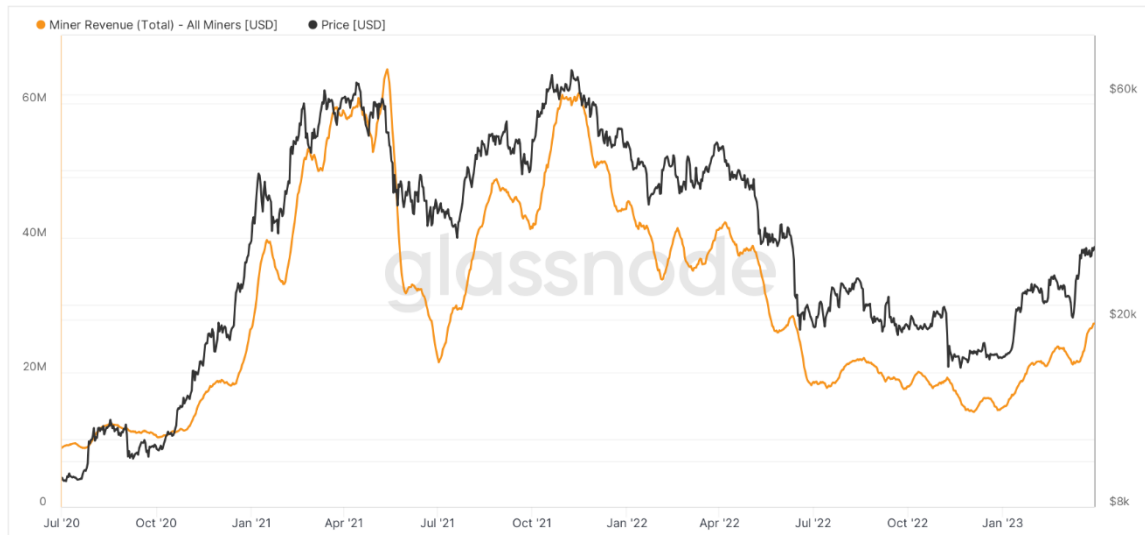


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Combine this this increase in fees with an increase in the USD value of issuance and you have increased overall total miner revenue.

Bitcoin: Total Miner Revenue [USD] - All Miners (14d Moving Average)

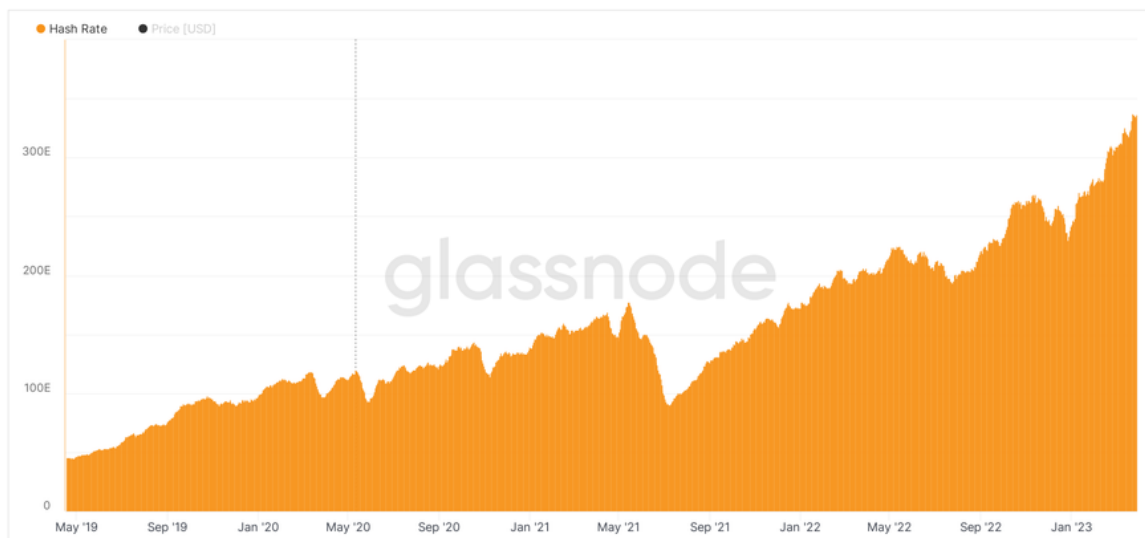


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This increase in revenue paired with lower global energy prices has taken pressure off of Bitcoin miners' margins, along with the plugging in of newer/more efficient machines, has translated to Bitcoin's hash rate roaring to new all time highs day after day.

Bitcoin: Mean Hash Rate (14d Moving Average)



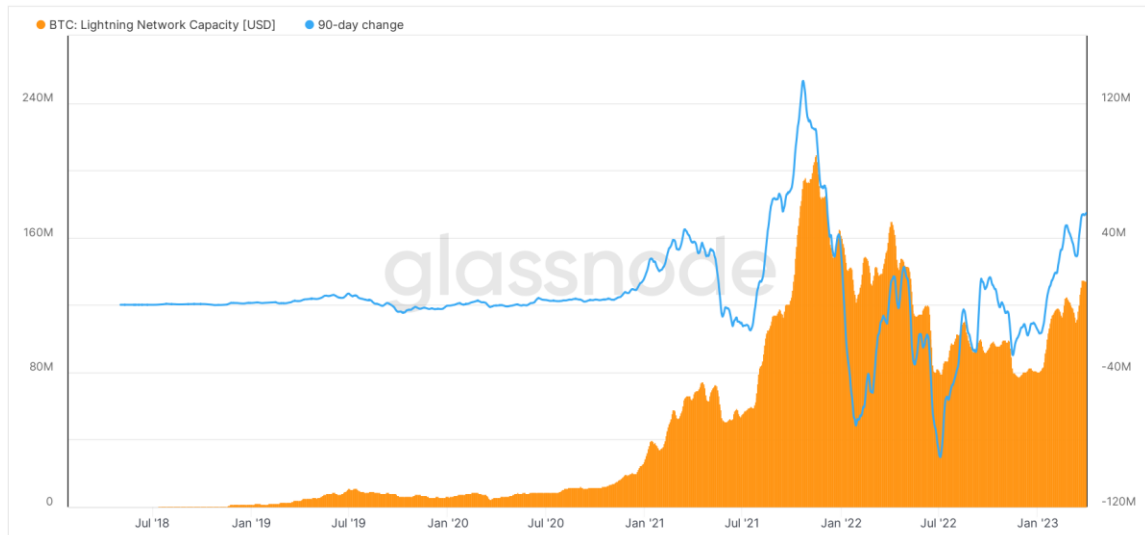
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Lightning network

Lastly, Bitcoin's layer two scaling solution lightning has seen bounced back recently as well, with public network capacity in USD terms jumping by over \$50 million year to date.

BTC: Lightning Network Capacity



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Meanwhile, the average lightning network channel size has grown as the number of channels that are open has declined.

Bitcoin: Lightning Network Channel Size (Mean) [USD]



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Overall with companies such as Strike behind it, lightning has real potential to bring permissionless payments to the world and the layer two scaling solution has held up quite well despite the overall market declining from 2021-2023. However, it has yet to see true mass adoption.

Conclusion

In conclusion, the Bitcoin network has seen not only a strong price performance over the last few months, but real vibrant underlying network activity to support the price move thus far. Several indications from addresses, fees, the mempool, hash rate, etc. are all showing signs of life, and with Bitcoin's value proposition being shined on a global stage amidst banking turmoil, may continue to trend in a positive direction.

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