

# **Crypto Cloud Mining –**

*Earn Passive Income Online*

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## **Chapter 1 – What Is Cloud Mining?**

Cloud mining is a mechanism for mining cryptocurrencies, such as Bitcoin, using rented cloud computing power without having to install and run the hardware and associated software yourself. Cloud mining companies allow you to open an account and participate in mining cryptocurrencies remotely for a small fee, making mining accessible to a larger number of people around the world. Since this form of mining is done via the cloud, issues such as equipment maintenance or direct energy costs are reduced. Cloud miners become participants in a mining pool where users buy a certain amount of "hash power." Each participant receives a proportional share of the profits in proportion to the hash power rented. Popular models for cloud mining include hosted mining and hash power rental.

The advantages of cloud mining are that it lowers the overall costs associated with mining and allows ordinary investors who do not have sufficient technical knowledge to mine cryptocurrencies. The disadvantages of cloud mining are that mining is centralized on farms and profits depend on demand.

**Understanding Cloud Mining.** Cloud mining uses cloud computing for the purpose of producing blockchain-based cryptocurrencies. Cloud computing is one of the fastest growing technology trends where computing services such as processing power, server capacity, database services, software, and file storage are accessed through the cloud, which is the internet. These companies charge on a usage basis, just as we pay for our water or electricity usage. On the other hand, mining is the backbone of the cryptocurrency model, such as Bitcoin. It is the process by which transactions are verified and added to the public ledger, known as the blockchain. It is also the means by which new coins are released.

A combination of the two opens up the world of mining to people in remote locations with little or no technical knowledge or hardware infrastructure.

Cloud mining models. Hosted mining is the most popular form of cloud mining. In this model, the customer buys or rents mining hardware that is located in a miner's facility. The miner is responsible for maintaining the equipment and ensuring that it functions as intended. Through this model, customers have direct control over their cryptocurrency.

The economies of scale of a mining farm ensure that the expensive costs associated with mining, such as electricity and storage, become manageable. However, there are significant upfront costs associated with this type of mining. Leased hash power is another model used in cloud mining. In this model, hash power, the computing power associated with a cryptocurrency, is rented from a mining farm. Customers receive a share of the farm's total profits from mining cryptocurrencies.

According to reports, rented hash power is a popular form of mining altcoins (i.e., cryptocurrencies other than Bitcoin). This method requires a person to open an account through a cloud mining company's website and select certain things such as the contract term and hashing power. While cloud mining has advantages, such as lower investment in hardware and recurring costs, it also has some disadvantages. For example, with the popularity of cryptocurrencies, the number of scams in the industry has greatly increased. And then there's the prospect of declining profits. Altcoins in particular are vulnerable to demand, and a decline in their hash power could lead to lower profits for miners. Cloud mining models also encourage the centralization of cryptocurrencies that would otherwise be a decentralized ecosystem.

How Mining Cryptocurrencies Works? Mining cryptocurrencies like Bitcoin, whether via the cloud or locally, does not actually involve mining. While this process generates new cryptocurrency tokens that are awarded to miners, mining serves a much more important purpose, which is to maintain the security of a distributed ledger like a blockchain.

Bitcoin mining is performed by high-performance computers that solve complex mathematical problems. These problems are so complex that they cannot be solved by hand and are so complicated that they overwhelm even incredibly powerful computers. When cryptocurrency miners add a new block of transactions to the blockchain, part of their job is to verify the accuracy of those transactions. Specifically, bitcoin miners ensure that bitcoin is not duplicated, a unique quirk of digital currencies known as "double spending."

With printed currencies, counterfeiting is always a problem. But once you spend \$20 at the store, that bill is in the clerk's hands. With digital currencies, however, things are different. Miners use their computing power to solve cryptographic puzzles that prevent double spending in a decentralized way.

## **Chapter 2 - What are the pros and cons of the various cloud mining platforms?**

This does not only apply to Bitcoin, but to all cryptocurrencies in general. In fact, newbies searching Google for ways to mine Bitcoin often come across cloud mining, which actually has little to do with real Bitcoin mining. In this article, we will try to understand what cloud mining is, what the differences are from classic "home mining" and why, in general, it is almost always worth avoiding.

What is cloud mining? In cloud mining, you buy a specific hashing service from a centralized entity that manages and owns one or more mining farms. For example, let us say you want to buy 10 TH /s bitcoin mining power from one of the cloud mining platforms. Such platforms practically rent a part of their bitcoin mining hardware, which can reach the desired hashrate, at a certain market price. Typically, users pay an initial fee, which varies depending on the hashrate, and then sign a contract with the provider for one or more years. Each month thereafter, a portion of the revenue attributable to the users' hashrate share is retained by the company, both to pay for operating costs such as electricity, cooling, maintenance, and others, and as business profit.

Specifically, a company offering a cloud mining service owns one or more mining farms around the globe. All the ASICs and equipment for mining Bitcoin or other cryptocurrencies are located in these farms. So, if a company offers a total hashrate of one PetaHash/s (i.e. 1000 TH /s) on its website, it must have a number of machines that can deliver a total hashrate of one PetaHash/s.

Typically, a company chooses to offer a cloud mining service to minimize ROI times. By virtually selling its own hashrate, the company can pay back most of the initial hardware investment in a very short time, rather than mining cryptocurrencies itself.

What are the advantages of cloud mining?

1) No technical knowledge required For beginners looking for ways to mine bitcoin on Google, this is a very easy and quick service to use. In fact, virtually no knowledge about mining cryptocurrencies is required. You do not need to know what an ASIC is, what a mining pool or a mining farm is, you do not need to know how to use mining tools, what protocols to use and how to connect to the mining pool (Stratum or otherwise). It is enough to create an account, pay the appropriate fee for the desired hash rate (the higher the hash rate, the higher the revenue) and activate the service. The revenue is credited directly to the user's account.

2) You do not have to buy hardware Another advantage of cloud mining is that you do not have to buy mining equipment. This means that you do not have to deal with the best ASICs or graphics cards for mining, which is a huge time saver. For nerds, buying, installing, and setting up the hardware is perhaps the most enjoyable part of mining. However, for those who are unfamiliar with the field, all that time and study is spared. Perhaps the really good thing about cloud mining is that you do not have to worry about devaluing and updating your equipment, since you do not really have a particular ASIC or GPU. The actual mining with all the associated technical aspects is a black box for the end users. And of course, it will all end up costing them a lot.

3) No operating costs, no heat, and no noise. Have you ever had the opportunity to touch an Antminer S9 mining Bitcoin? It is a machine that consumes 1500 watts per hour, produces a lot of heat, and makes a deafening noise due to its cooling system. It is easy to see that these are not devices that you keep at home. These devices need a suitable environment with good ventilation, far away or isolated from the home. The same is true for mining rigs with multiple GPUs, although in this case the noise level is usually lower. One or more ASICs for mining Bitcoin also require a large amount of power. Domestic power supply contracts typically start at a minimum of 3 kWatts. However, with one or more ASICs at 1.5 kW each, it is no longer viable to power the house and the mining machines at the same time with small contracts. So, for example, those who live in an apartment will hardly be able to mine Bitcoin in the house due to the above limitations.

Therefore, cloud mining might be the only option. What are the disadvantages of cloud mining?

1) Low earnings The fact that you do not have to configure anything and deal with a ready-made solution has a negative impact on your income, which is often quite low. This is because part of the profit is retained by the mining farm for expenses. Moreover, over time, when the difficulty of mining Bitcoin increases or, as happened in the last 12 months, when the value of the currency decreases, situations can arise in which mining yields little profit. This is not such an extreme case. Just last summer, several cloud mining services were forced to suspend various contracts and shut down their mining farms. Aside from these exceptions, cloud mining generally offers rather low revenue for those who want to convert their mined coins into fiat on a monthly basis. The situation is different for those who want to mine Bitcoin to hold it as a future investment.

In this case, however, it may be better to buy Bitcoin outright, even considering that the hashrate purchased in the mining farm tends to yield fewer Bitcoins over time.

2) A large number of scams It is common knowledge that there are unfortunately many fraudulent companies in the cryptocurrency world. This is partly due to the lack of regulation in the sector and partly because once a bitcoin payment is made, it cannot be reversed. The cloud mining industry has often been at the center of attention of several fraudulent platforms that sold fake mining contracts or failed to pay their users. For this reason, those who are truly interested in cloud mining need to perform a series of checks and verifications and rely only on the best cloud mining platforms. Scams often lurk around every corner!

3) It favors the centralization of the network This point is more of an ethical issue that concerns those who really want to contribute to the world of cryptocurrencies and are not just after the economic return. First of all, keep in mind that mining Bitcoin contributes to the security of the network by validating the transactions that are inserted into the blocks. Since the blockchain is trustless, i.e. there is no central authority, miners take care of the network's security by running the PoW consensus algorithm to ensure that there is no double spending, spam attacks on the network, etc. The probability of finding a block and then receiving a reward in BTC increases as hashing performance increases. This triggers a real competition between different miners. For this reason, miners often join together (mining pools) to pool their hashrates to increase their chances of success. However, if a large portion of the hashrate is concentrated in the hands of a single group, at least 51% of the total hashing power of the network, such a group could conduct a dangerous 51% attack.

This is a very unlikely possibility, but still possible. Bitcoin and most other cryptocurrencies are designed to be decentralized, i.e., without a central authority. Clearly, cloud mining favors the centralization of mining in the hands of a few, since effective control over the hashing power is in the hands of the farm manager, not the end user. This means, for example, that the user is not able to switch pools, which is very possible for domestic miners and has allowed communities to redistribute the hash rate of the network on several occasions to prevent a single pool from having control over 51% of the network. This is an ethical issue that has little real impact. However, those who truly want to support Bitcoin, Ethereum, Monero, or any other mineable cryptocurrency should do so while maintaining appropriate decentralization. The same considerations can be made with full nodes, but that is part of a separate chapter.

4) One is limited to mining only some coins. Finally, a rather important aspect concerns the coins that are mined. Cloud mining is usually limited to the most popular currencies. This is a good thing in itself, as you will only be mining proven and therefore reliable cryptocurrencies. However, it is often possible to make good profits by mining new coins on their debut when the difficulty and spread are minimal. Of course, this is a risky decision, but it is only possible for native miners who have direct control over the hardware. To mine certain coins (for example, the newborn Grin), you need ad hoc software that you have to install and configure manually. This is hardly possible with cloud mining. Domestic (real) mining therefore offers much more possibilities and flexibility.

## **Chapter 3 - What is a mining pool?**

A mining pool is a collective group of cryptocurrency miners who combine their computing resources across a network to increase the likelihood of finding a block or otherwise successfully mining cryptocurrency. Mining pools use these combined resources to increase the likelihood of finding a block or otherwise successfully mining for cryptocurrency. If the mining pool is successful and receives a reward, that reward is shared among the pool's participants.

**How a Mining Pool Works.** The individual participants in a mining pool contribute their computing power to find a block. If the pool is successful in this effort, they receive a reward, usually in the form of the corresponding cryptocurrency. The rewards are usually divided between the individuals who have contributed, according to the proportion of each individual's computing power or work relative to the group as a whole.

In some cases, individual miners must provide proof of work to receive their rewards. Rewards are generally divided among miners based on agreed-upon terms and their respective contributions to mining activities. Anyone who wants to make money mining cryptocurrencies has the choice of either working alone with their own devices or joining a mining pool, where several miners and their devices join together to increase their hashing output.

For example, if you connect six mining devices, each providing 335 megahashes per second (MH /s), you can generate a cumulative mining performance of 2 gigahashes, resulting in faster hash processing. Mining Pool Methods Not all cryptocurrency mining pools work in the same way.

However, there are a number of common protocols that govern many of the most popular mining pools. Proportional mining pools are among the most common. In this type of pool, miners who contribute to the pool's computing power receive shares up to the point where the pool finds a block.

After that, miners receive rewards proportional to the number of shares they hold. Pay-per-share pools work much like this, with each prospector receiving shares for their contribution. However, these pools offer immediate payouts regardless of when the block is found. A prospector who contributes to this type of pool can exchange shares for a pro-rated payout at any time.

Peer-to-peer mining pools, on the other hand, attempt to avoid centralizing the pool structure. As such, they integrate a separate blockchain related to the pool itself to prevent pool operators from cheating and the pool itself from failing due to a single centralized problem.

**Advantages of a Mining Pool.** While success in individual mining guarantees complete ownership of the reward, the chances of success are very low due to the high energy and resources required. For individuals, mining is often not a profitable endeavor. Many cryptocurrencies have become increasingly difficult to mine in recent years as the popularity of these digital currencies has increased and the cost of the expensive hardware necessary to be a competitive prospector, as well as electricity, often outweighs the potential rewards.

Mining pools require each individual participant to pay less in hardware and electricity costs, increasing the chances of profitability. While an individual prospector has little chance of finding a block and earning a reward, the success rate increases dramatically when they join forces with others.

Disadvantages of a Mining Pool. By participating in a mining pool, individuals give up some of their autonomy in the mining process. They are usually bound by the terms and conditions set by the pool itself, which can dictate how the mining process takes place. They are also obligated to share all potential profits, which means that the share of profits for an individual participating in a pool is smaller.

A small number of mining pools such as AntPool, Poolin, and F2Pool dominate the bitcoin mining process, according to blockchain.com. Although many pools strive to be decentralized, these groups consolidate much of the authority to control the Bitcoin protocol. For some cryptocurrency advocates, the presence of a small number of powerful mining pools contradicts the decentralized structure inherent in Bitcoin and other cryptocurrencies.

