What Is Staking in Cryptocurrency? How the Proof of Stake (PoS) Algorithm Works

The **Proof of Stake (PoS)** algorithm, by introducing **staking** as a means to enhance **blockchain** security and functionality, offers an **eco-friendly** solution that also **conserves energy**.

Staking is a form of **passive income** generation from cryptocurrency assets where block information is **verified** and **validated** without the need for **mining** systems.

However, like any other type of investment, this method also comes with risks such as Price Volatility Risk.



Learn the concept of staking and discover the best cryptocurrencies for crypto staking

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What Is Staking?

Staking refers to the process in which users earn rewards by holding or locking their digital assets within a blockchain network.

By staking assets on blockchains that operate under the **Proof of Stake (PoS)** algorithm, individuals contribute to the security and efficiency of that network.

This process is similar to earning interest by depositing funds in a traditional bank account.

Crypto staking does not require advanced technical skills, and anyone with basic knowledge can enter this space.

Networks such as **Solana (SOL)**, **Cardano (ADA)**, and **Ethereum (ETH)** are among the projects that offer **cryptocurrency** **staking** options.

What Is the Proof of Stake (PoS) Algorithm?

The **Proof of Stake (PoS)** algorithm is a method for verifying blockchain transactions and creating new blocks.

Instead of using mining devices, users **stake** a portion of their cryptocurrency and, in return, receive **rewards** for **generating new blocks**.

The locking of users' assets within the blockchain increases the **credibility** of that blockchain.

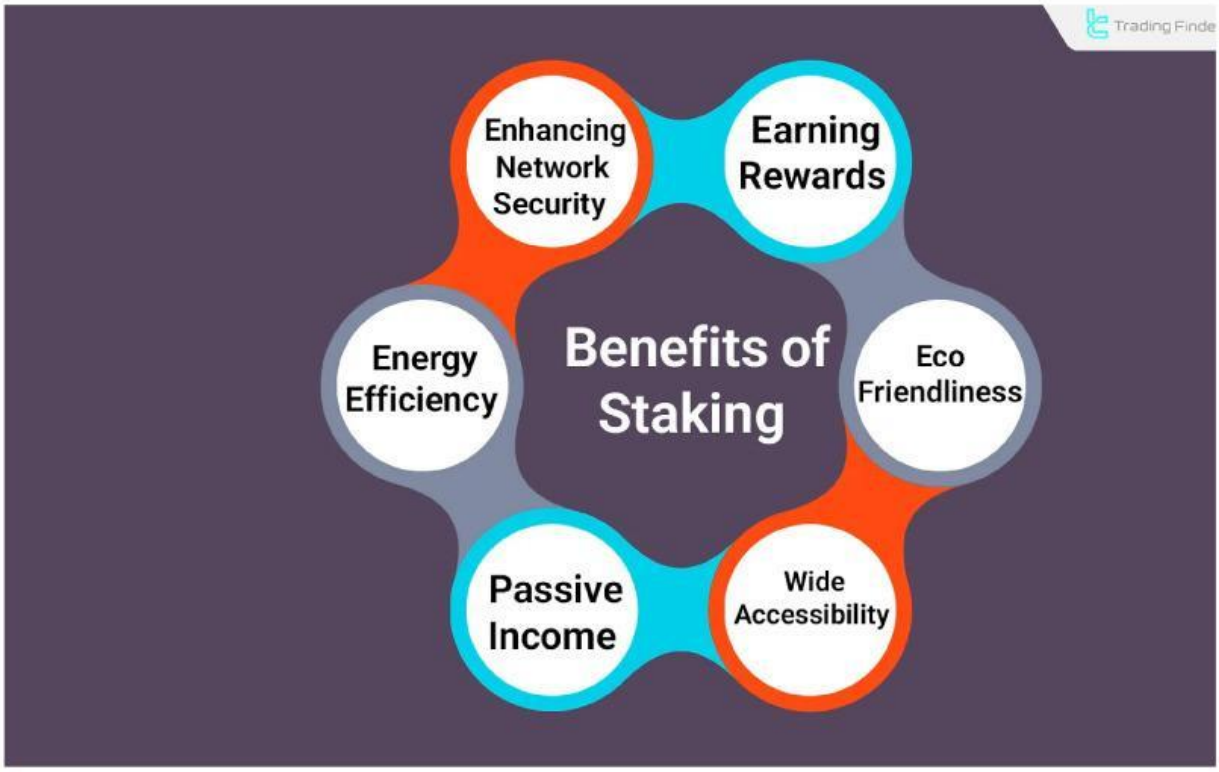
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Advantages and Risks of Staking

While crypto staking offers passive income for investors, it also comes with risks such as Price Volatility Risk.

Benefits of Staking

Staking cryptocurrencies not only generates income but also contributes to **energy efficiency** and improved environmental conditions.



Staking is a method for generating passive income

- **Earning Rewards:** Similar to earning interest in a bank, **staking** allows users to receive periodic returns;

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- **Enhancing Network Security:** Participating in the transaction validation process improves the stability and security of the network;
- **Eco-Friendly:** Unlike PoW, the **PoS algorithm** does not require heavy hardware resources and is environmentally sustainable;
- **Energy Efficiency:** Energy consumption and related costs are significantly lower compared to mining;
- **Passive Income Generation:** One can earn profits without daily activity or constant trading;
- **Wide Accessibility:** Many exchanges (such as **ByBit**,**CoinBase**, **Binance**) and wallets offer **crypto staking**.

Risks of Staking

Staking involves risks such as Price Volatility Risk or project failure. Key risks of **cryptocurrency staking** include:



Staking cryptocurrencies comes with risks such as Price Volatility Risk

- **Lock-Up Period:** During this time, users cannot sell or transfer their cryptocurrency;

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- **Price Volatility Risk:** The value of the asset may decline during the **staking** period;
- **Validator Selection Risk:** Choosing an unreliable validator may result in partial loss of funds;
- **Unstaking Period:** After stopping **staking**, users might need to wait before their assets become withdrawable;
- **Project Failure Risk:** If the project fails, there's a possibility of losing the staked funds.

What Is a Staking Pool?

The chance of successfully validating a block is directly related to the amount of cryptocurrency **locked** in the network; the higher the amount, the better the chances of being selected to validate a block.

Given the large number of validators and their substantial holdings, small investors typically have a low probability of receiving block rewards.

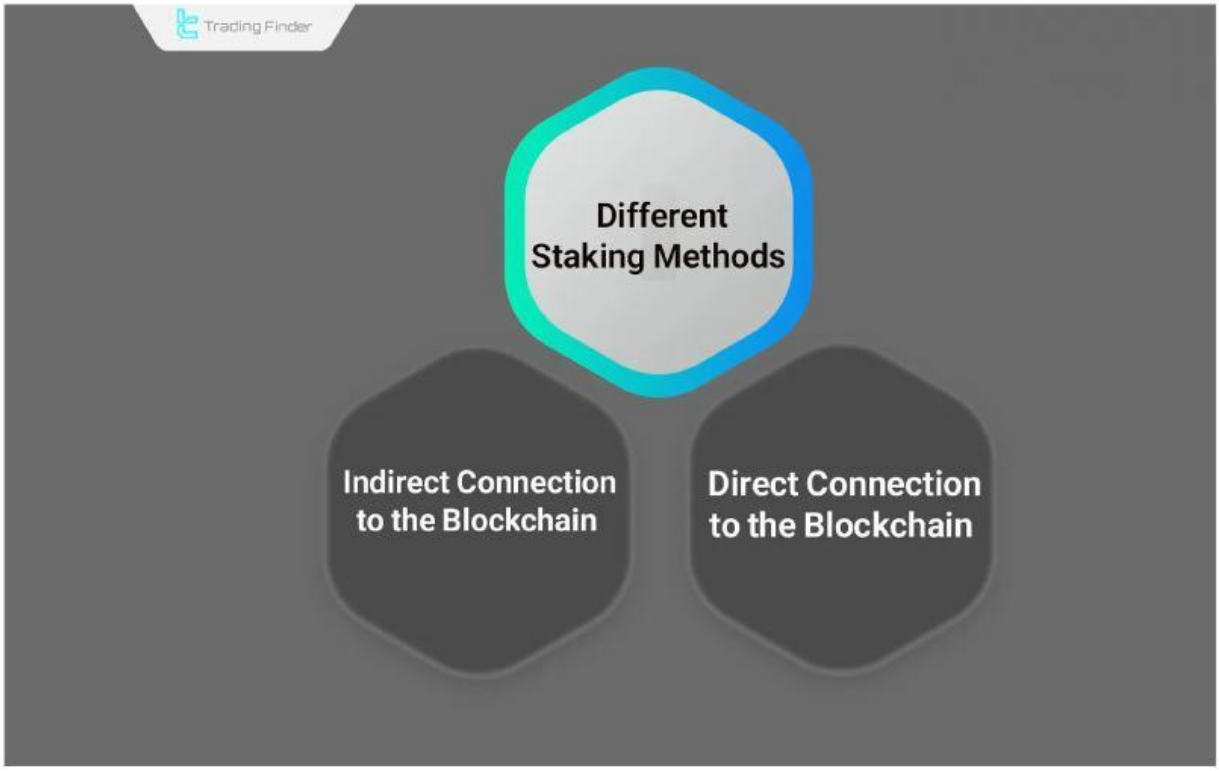
Staking pools allow smaller **crypto stakers** to combine their assets with others, increasing their chances of being chosen for block validation.

Consequently, the reward for validating a block is distributed among participants based on each staker's contribution to the pool.

Different Methods of Staking

To **stake** cryptocurrencies, users can either connect directly to the blockchain or use intermediaries such as **staking pools.**

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It is possible to connect to the blockchain and stake through both direct and indirect methods

Direct Connection to the Blockchain

In this method, the **staker** becomes a **validator** within the network and plays a direct role in the **block validation** process. To do this, a certain amount of the network's native **cryptocurrency** must be locked directly on the blockchain.

Once the asset is locked, a computer must remain **continuously online** to stay connected to the blockchain and validate blocks.

This method typically yields higher rewards than other **crypto staking** methods, but it requires significant capital, **advanced blockchain knowledge**, and technical setup.

If any issue or disruption occurs in the **validator's block validation** process, a portion of the locked funds may be penalized and deducted.

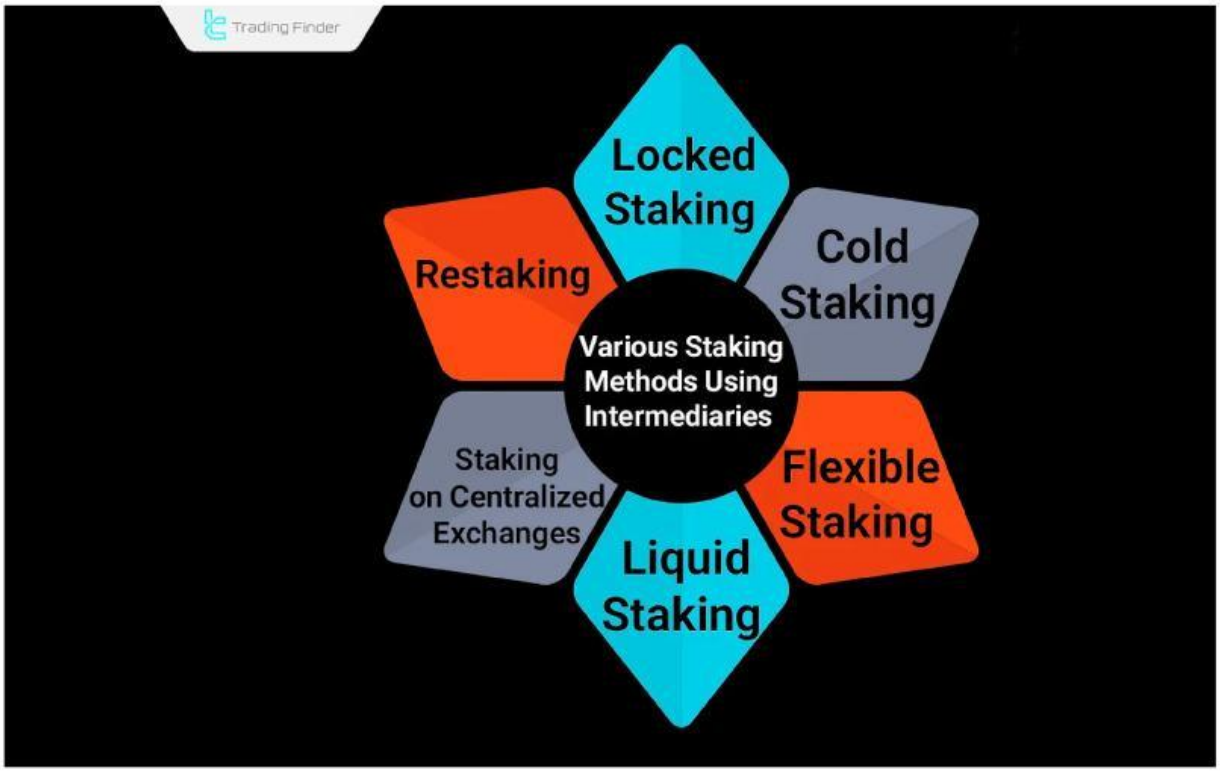
Using an Intermediary to Connect to the Blockchain

In this method, users connect to a **validator's** liquidity pool and do not participate directly in the block validation process. This is a fully **passive investment** strategy that does not require advanced blockchain knowledge.

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One simply locks their funds into a **staking platform**; naturally, the reward received from this approach is lower compared to direct connection to the blockchain.

There are various methods for connecting to a staking intermediary, each offering different levels of rewards.



You can lock digital assets and stake through six different methods using intermediaries

Locked Staking

In this method, the **staker** connects to a **validator's** liquidity pool and locks a certain amount of cryptocurrency in a wallet or exchange for a **predetermined** period.

The lock-up duration is set in advance, and if the user cancels participation before the **agreed** time, the locked asset is released with a penalty deduction.

Cold Staking

In this method, the asset is locked in a cold wallet that is not connected to the internet, and the **staker** retains control over the private keys.

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By signing a smart contract, the **staker** delegates the use of their digital asset for block validation to a **validator**, while still holding the asset in their cold wallet.

If the asset is **removed** from the cold wallet, the reward distribution stops. Afterward, the accumulated rewards from the locked asset will be paid to the **staker**.

Flexible Staking

In this approach, the asset is held in an exchange or wallet without being locked.

There is no penalty for early withdrawal, which makes this method more convenient, though it offers lower rewards compared to other **crypto staking** methods.

Liquid Staking

In this method, after the selected asset is locked, the **staker** receives a derivative token with the same name as the locked token, prefixed with "**ST**", representing the same value and quantity.

This token retains all functionalities of the original locked token, allowing the **staker** to trade it freely.

After initiating **liquid staking**, whenever the **staker** decides to end the process, they must return the derivative token in order to **retrieve** their original asset. After this step, the derivative token is **burned**.

Staking on Centralized Exchanges

In this method, the **staker** deposits their asset into a centralized exchange (**CEX**) and leaves the rest of the **staking** process to the platform.

This approach requires no technical knowledge of blockchain. However, the selected exchange must be **validated**, and its **staking** rewards should be reviewed carefully.

Restaking

The concept of **restaking** is defined within Ethereum's consensus layer. This mechanism, through its own protocols, enables locked tokens to be **reactivated**.

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Restaking allows the **crypto staker** to use their tokens across multiple networks to **enhance network security** and **increase rewards**.

Top **restaking** protocols include:

- **Renzo**
- **Etherfi**
- **EigenLayer**

Steps to start staking

To begin staking and become a **Staker**, it is essential to first choose a **staking method** based on one's individual investment strategy.

Steps to perform staking:

1. Choose a cryptocurrency based on your **staking** method;
2. Install a wallet and transfer the selected crypto;
3. Sign a smart contract and begin **staking**.

#1 Choosing the Right Cryptocurrency for Staking

To choose a cryptocurrency, the investment goal must first be defined.

If the objective is to **earn passive income** by **staking** an asset alongside long-term holding profits, the long-term trend of that asset should be analyzed to avoid Price Volatility Risk.

To eliminate the risk of Price Volatility Risk, it is recommended to use **stablecoins** for **staking**, as their value is always pegged to **1 USD**.

#2 Installing a Wallet and Transferring Your Cryptocurrency

In this step, the wallet setup and preparation process is completed:

1. Preparing the wallet for **staking**;
2. Downloading a trusted wallet from platforms such as App Store or Google Play;
3. Creating a user account within the wallet;
4. Setting up security measures such as two-factor authentication (2FA);

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5. Transferring your selected cryptocurrency to the wallet.

#3 Signing a Smart Contract and Starting the Staking Process

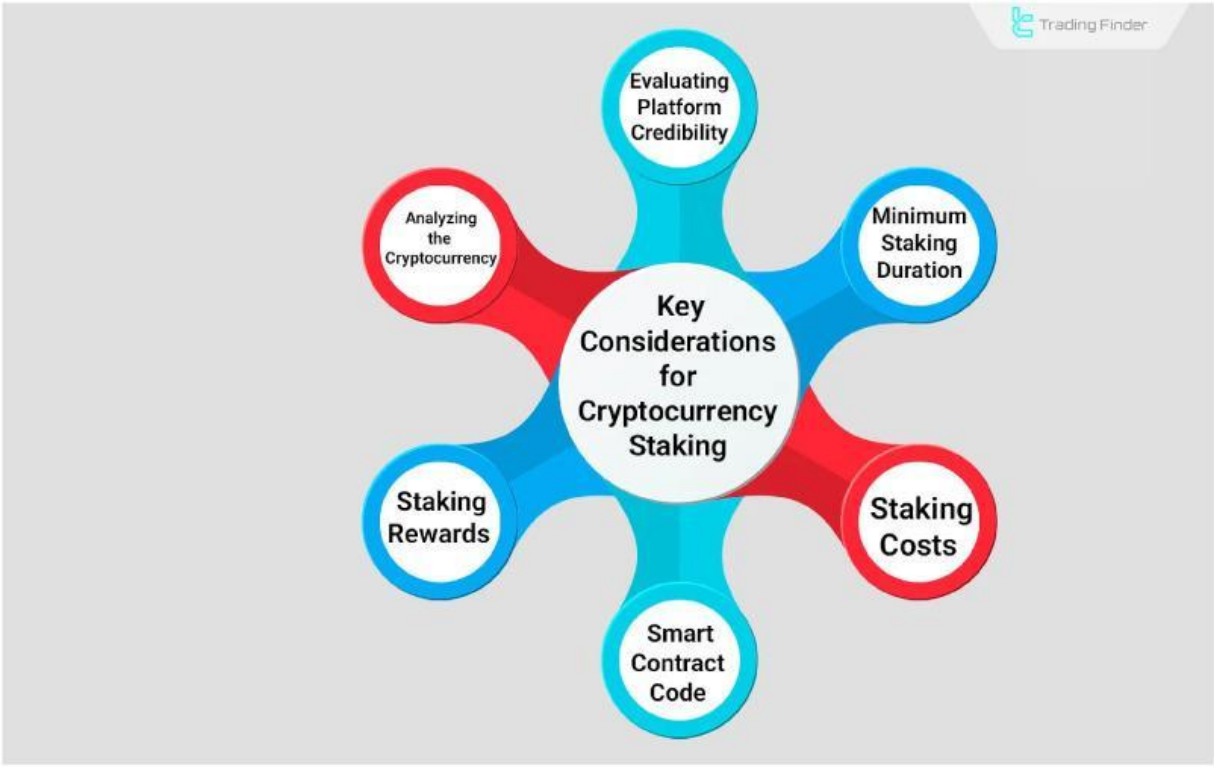
Next, access the **DApp** section of your wallet to locate the **staking** platform and connect your wallet to it.

At this point, the chosen amount of cryptocurrency is locked, and with the signing of a smart contract, the **staking** process officially begins.

Key Considerations for Staking Cryptocurrency

Before starting **staking**, several factors must be reviewed — such as platform credibility, fees, and the duration of the smart contract — to minimize investment risks as much as possible.

Important crypto staking considerations include:



It's important to review factors like staking fees and expected rewards

- **Evaluating Platform Credibility:** The reputation and track record of a **staking** platform should be assessed through expert reviews and user feedback;

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- **Reviewing Minimum Lock-Up Period to Earn Rewards:** This duration can vary from a few days to several months and should be considered based on the investor's goals;
- **Staking Costs:** It's essential to estimate costs such as transfer fees, custody fees, and **staking** service charges;
- **Analyzing Smart Contract Instructions:** Some smart contracts may include hidden clauses beyond **staking** instructions; reading the underlying code can help identify them;
- **Staking Rewards: Staking platforms** offer different reward percentages depending on the cryptocurrency and lock-up duration;
- **Analyzing the Cryptocurrency:** To avoidPrice Volatility Risk, the long-term trend of the chosen asset should be examined using both technical and fundamental analysis.

Does impermanent loss occur in staking?

No, contrary to popular belief, this does not happen in staking.

Impermanent loss is specific to **liquidity providers** in **decentralized exchange (DEX) pools**. Therefore, during periods of **high price volatility** in one of the **paired tokens** locked in the liquidity pool, the DEX initiates a buy or sell operation on the highly volatile token to **maintain balance within the trading pair**. As a result, the **loss incurred from these automated trades** is referred to as **impermanent loss**.

Best Cryptocurrencies for Staking

Only cryptocurrencies that use the **Proof of Stake (PoS)** algorithm are eligible for **staking**.

Cryptocurrencies offer different **annual percentage yields (APY)**, depending on the nature of each project. Here's a list of the **best cryptocurrencies for staking in 2025**:

Cryptocurrency Name	Percentage Yield (APY)
Ethereum (ETH)	4%

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Avalanche (AVAX)	7%
Binance Coin (BNB)	2%
Aptos	7%
Matic	4%
Polkadot (DOT)	11%
Cardano (ADA)	3%
Tron (TRX)	5%
Cosmos	20%
Algorand (ALGO)	11%
Solana (SOL)	8%
HyperLiquid (HYPE)	2%

Conclusion

Proof of Stake (PoS) allows users to earn cryptocurrency by **staking** instead of **mining**. Staking involves **locking a portion of a blockchain's native token** to help secure and operate the network. In return, stakers receive **token rewards**.

There are two main staking methods: **direct staking**, which requires expertise and high capital, and **indirect staking**, where users participate via intermediaries through options like **Locked Staking**, **Cold Staking**, and **Liquid Staking**.

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source:

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https://tradingfinder.com/education/crypto/what-is-staking/

2.all Cryptocurrency Education :
https://tradingfinder.com/education/crypto/

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