

# What Is Liquid Staking?

*How staked crypto became spendable again — the tokens, the trade-offs, and why liquid staking sits at the center of on-chain yield.*

Alain AI Lab Research · Published July 3, 2026 · 9 min read

## AT A GLANCE

### WHAT IT IS

Staking that issues a tradeable receipt token

### TWO TOKEN MODELS

Rebasing vs reward-bearing

### THE RECEIPT

A liquid staking token (LST)

### LARGEST PROVIDER

Lido (stETH), by a wide margin

### SOLO-STAKE MINIMUM

32 ETH — LSTs remove it

### DEFI FOOTPRINT

One of the largest categories by TVL

## 01 — THE CORE IDEA

### Staking without the lock-up

Ordinary staking asks you to lock capital to help secure a proof-of-stake network, and in return you earn rewards. The catch is that locked capital cannot do anything else — it cannot be traded, lent, or used as collateral while it sits bonded to the chain. Liquid staking, a design that hands you a transferable token representing your staked position, removes that catch.

When you deposit into a liquid staking protocol, the protocol stakes on your behalf and mints you a **liquid staking token**, or LST — a receipt that continuously tracks both your underlying deposit and the rewards it accrues. You hold the LST; the protocol runs the validators. The staked asset keeps earning, yet the LST in your wallet remains free to move. That single act of tokenizing a locked position is the whole innovation, and it is why liquid staking became one of the busiest corners of decentralized finance.

Think of the LST as a claim ticket. Handing your coat to a cloakroom leaves you with a numbered stub you can carry, trade, or lend, while the coat itself stays on the rack; redeem the stub and you get the coat back. An LST works the same way, except the “coat” is your staked crypto and the ticket quietly grows in value as rewards pile up. Because that ticket is a standard on-chain token, every wallet, exchange, and DeFi protocol already knows how to handle it — which is what let liquid staking scale from a niche idea to a market measured in tens of billions of dollars.

## 02 — THE PROBLEMS IT SOLVES

### Three barriers to solo staking

To appreciate why liquid staking spread so quickly, look at what solo staking demands. First, a **capital minimum**: running your own Ethereum validator requires exactly 32 ETH, a sum out of reach for most participants. Second, an **operational burden**: a validator must stay online, correctly configured, and updated, or it forfeits rewards through penalties. Third, **illiquidity**: bonded stake could not be withdrawn at all until Ethereum’s Shapella upgrade of April 2023, and even now exits pass through a queue rather than settling instantly.

Liquid staking dissolves the first two barriers by pooling deposits of any size under professionally run validators, and it reframes the third. Rather than wait in an exit queue, a holder can simply sell or spend the LST on the open market, converting a staked position back to a liquid one in a single transaction. You can read the mechanics of the underlying system in our companion report, [What Is Ethereum Staking?](#)

## 03 — TWO TOKEN MODELS

### Rebasing versus reward-bearing

LSTs come in two flavours, and the difference matters for taxes, accounting, and DeFi compatibility. A **rebasing token** keeps a roughly one-to-one peg with the staked asset and pays rewards by increasing the number of tokens in your wallet each day. Lido’s stETH is the best-known example: your balance quietly grows as rewards land. Because a shifting balance confuses many DeFi protocols, Lido also offers wstETH, a wrapped version whose quantity stays fixed while its value climbs.

A **reward-bearing token** takes the opposite approach: the token count stays constant and the token’s exchange rate against the staked asset rises over time. Rocket Pool’s rETH and

Coinbase’s cbETH work this way — one rETH is worth steadily more ETH as rewards compound. Neither model is superior; reward-bearing tokens slot more cleanly into automated protocols, while rebasing tokens make the accruing yield visible at a glance.

The distinction is not merely cosmetic. A rebasing balance that changes every day can break lending markets and liquidity pools that assume a fixed quantity, which is exactly why wrapped versions exist as the DeFi-friendly form. It also shapes tax and accounting treatment in many jurisdictions, since a growing balance and a rising exchange rate are recorded differently. When choosing an LST, holders should know which model they are holding and whether the venues they plan to use it in expect the wrapped or unwrapped version.

**Peg, not price.** An LST is not a stablecoin. Its value floats with the underlying asset plus accumulated rewards, so stETH rises and falls with ETH. What holders watch is the peg between the LST and the asset it represents — and, as 2022 showed, that peg can wobble under stress.

#### 04 — WHO ISSUES LSTS

### The provider landscape

The market is concentrated but not monolithic. **Lido**, launched in December 2020, is the dominant issuer by a wide margin, with stETH accounting for a large share of all liquid-staked ETH. **Rocket Pool**, live on mainnet since roughly late 2021, takes a more decentralized route: independent node operators run “minipools” by pairing their own 8 ETH with 24 ETH of pooled user deposits, backed by RPL collateral, which keeps the network permissionless and non-custodial.

Exchange-backed options fill out the field. **Coinbase** issues cbETH, **Binance** issues WBETH, and **Frax** offers sfrxETH — each convenient but custodial, meaning the issuer controls the keys. Most protocols keep a fee, often around a tenth of the rewards earned, as the price of running the infrastructure. The trade-off across all of them is the familiar one in crypto: convenience and scale on one side, self-custody and decentralization on the other.

#### 05 — CAPITAL EFFICIENCY

### Making staked value work twice

The reason LSTs became a foundation of DeFi is **capital efficiency** — the ability to earn staking rewards and put the same value to work elsewhere at the same time. An LST can be supplied as collateral to borrow against, deposited into a liquidity pool, or dropped into a yield vault, all while the staking reward continues to accrue underneath. Value that once sat idle now serves two purposes at once, and it is this doubling of utility, more than the headline yield itself, that pulled so much capital into liquid staking in the first place.

A common strategy shows both the appeal and the danger. A holder supplies stETH as collateral, borrows ETH against it, stakes that ETH for more stETH, and repeats — a loop that multiplies the staking yield. It works smoothly while the peg holds and rates stay favourable, but a modest drop in the LST’s market price can trigger liquidations that unwind the whole position at once, which is one reason the June 2022 dislocation hurt leveraged holders far more than plain ones.

That power carries a warning. Layering strategies on top of an LST stacks the yields, but it stacks the risks too: a smart-contract failure, a liquidation cascade, or a peg dislocation can hit every layer simultaneously. The most durable use of an LST is usually the simplest one, and leverage built on borrowed, staked, re-deposited tokens is precisely where losses concentrate when markets turn.

## 06 — THE BRIDGE TO RESTAKING

### From LSTs to LRTs

Liquid staking also became the launch pad for the next layer of the yield stack. **Restaking**, a mechanism that lets already-staked ETH be pledged again to secure additional services, frequently starts from an LST rather than raw ETH. When an LST is restaked, the holder receives a **liquid restaking token**, or LRT — a receipt on a receipt, extending the same tokenization idea one rung higher.

This composability is powerful and genuinely riskier, because it inherits every hazard of the layer beneath it and adds new slashing conditions on top. We cover the mechanics in [What Is Restaking?](#) and the protocol that pioneered it in [What Is EigenLayer?](#) The short version: LSTs made staked capital liquid, and restaking is what much of that liquidity now flows into.

## 07 — THE RISKS

### Where liquid staking can hurt

Four risks deserve attention. The clearest is **depeg risk**. In June 2022, amid the Terra, Three Arrows, and Celsius unwind — and before withdrawals were even possible — stETH traded at a discount of roughly five to seven percent to ETH as leveraged holders rushed for the exit. It was a dislocation driven by forced selling, not a permanent break, and the gap closed once Shapella enabled redemptions, but it showed that an LST peg is a market price, not a guarantee.

The other three: **smart-contract risk**, since the whole system rests on code that can hold flaws; **slashing pass-through**, where validator penalties reduce the value backing the LST; and **centralization risk**, the concern that one provider controlling a large share of staked ETH — Lido has hovered around a quarter to a third — edges toward the Byzantine-fault thresholds of roughly one-third, one-half, and two-thirds that govern a proof-of-stake chain's safety. Custodial LSTs like cbETH and WBETH add issuer risk that decentralized tokens like rETH are built to avoid.

## 08 — BEYOND ETHEREUM

### A pattern that traveled

Liquid staking is not an Ethereum-only idea; the same design took hold across proof-of-stake networks. On Solana, Marinade issues mSOL and Jito issues jitoSOL, both liquid receipts for staked SOL that plug directly into Solana's DeFi ecosystem. Cosmos chains and others have their own variants. Wherever a network rewards bonded capital and a DeFi ecosystem wants that capital liquid, an LST tends to appear.

What differs from chain to chain is the detail beneath the token. Exit queues, reward rates, validator economics, and the maturity of the surrounding DeFi ecosystem all vary, so an mSOL on Solana and a stETH on Ethereum are similar in concept but not interchangeable in behaviour. A holder should judge each LST on the specific network and protocol it belongs to rather than assuming that lessons from one carry over intact to another.

For most users the takeaway is practical. Liquid staking lowers the barrier to earning staking rewards, keeps capital usable, and underpins a large slice of on-chain finance — but the receipt token is only ever as sound as the protocol behind it, the code it runs on, and the peg the market grants it. Understand those three, choose between custodial convenience and decentralized control deliberately, and resist the urge to stack leverage on top of a position that already carries risk of its own.

*“Cast thy bread upon the waters: for thou shalt find it after many days.”*

ECCLESIASTES 11:1

#### METHODOLOGY & SOURCES

This report was compiled from protocol documentation and public data for Lido, Rocket Pool, Coinbase (cbETH), Binance (WBETH), Frax, Marinade, and Jito, alongside Ethereum’s published upgrade history. Findings were cross-checked by a parallel multi-agent research review.

All figures are directional. Provider market shares move continuously — Lido’s share of liquid-staked ETH is described as roughly a quarter to a third rather than a fixed number — and liquid staking is characterized as one of the largest DeFi categories by total value locked, not definitively the single largest. Launch dates are given as Lido around December 2020 and Rocket Pool’s mainnet around late 2021. The June 2022 stETH discount reflects a documented market dislocation during that quarter, not a protocol failure.

Nothing here is investment advice. Liquid staking tokens carry smart-contract, depeg, slashing, and centralization risk, and layering them into leveraged DeFi strategies compounds those exposures. Verify current figures via [intelligencecrypto.org](https://intelligencecrypto.org) before acting.

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