

Proposal: Add support for wstETH on Arbitrum v3

References:

Project: <https://lido.fi/>

Whitepaper: [lido-dao/README.md at master · lidofinance/lido-dao · GitHub](#)

Github: [lido-l2/contracts/arbitrum at main · lidofinance/lido-l2 · GitHub](#)

Documentation: <https://docs.lido.fi/>

Audit: [audits/Oxorio Lido L2 Smart Contracts Security Audit Report 07-2022.pdf at main · lidofinance/audits · GitHub](#)

Dune: [wstETH on Arbitrum](#)

wstETH: [Wrapped stETH: wstETH Token | Address 0x5979d7b546e38e414f7e9822514be443a4800529 | Arbiscan](#)

Chainlink: [EACAggregatorProxy | Address 0xB1552C5e96B312d0Bf8b554186F846C40614a540 | Arbiscan](#)

Governance: <https://research.lido.fi/>

Twitter: <https://twitter.com/LidoFinance>

Discord: [Lido](#)

Summary:

This ARFC presents the community with the opportunity to add wstETH to the Arbitrum v3 Liquidity Pool.

Motivation

The stETH Reserve on Aave v2 is the largest Reserve across all Aave deployments with \$1.52B in deposits, exceeding USDC (\$0.88B) and ETH (\$1.37B). This is partially due to several communities having built products that deposit stETH and borrow ETH as part of a rewards-maximizing strategy. The demand for stETH has increased as a result of listing stETH on Aave v2, which has increased the Lido DAO takes a small percentage of rewards received by staking ETH.

Listing of stETH by Aave has enabled Aave to offer the best return on ETH, in ETH terms, across major lending markets, continually outperforming Compound.

By listing wstETH on Arbitrum, the Aave community is helping create an environment capable of replicating a similar outcome to that of the Ethereum Mainnet Aave v2 Liquidity Pool.

The utilization of wETH on Arbitrum is 32.23%, compared to 49.56% on the Ethereum v2 wETH Reserve. Listing wstETH on Arbitrum v3 will increase TVL for Aave and generate new demand for wETH borrowing, creating demand for wETH deposits and driving growth for Aave DAO.

Specification

1. What is the link between the author of the AIP and the Asset?

Jacob is a full time contributor to the Lido DAO.

1. Provide a brief high-level overview of the project and the token?

Lido DAO's Ethereum liquid staking protocol enhances the security of the Ethereum network by enabling more users to stake ETH. When they stake ETH through the Lido Protocol software they receive stETH. stETH tokens are fungible and liquid. The total balance of stETH in existence is based on the total amount of ETH staked via the Lido protocols plus total staking rewards minus any slashing applied on validators. stETH rebases daily.

Due to the rebasing nature of stETH, a user's stETH balance changes daily as staking rewards are received from the network. As some DeFi protocols require a constant balance mechanism for tokens, Lido protocols offer wstETH, which is a wrapped version of stETH. wstETH keeps a user's token balance fixed and uses an underlying share system to reflect users' staking rewards.

Example:

- Wrap 100 stETH to 99.87 wstETH
- Continue to receive rewards on your wstETH

- Unwrap wstETH, receive 101 stETH

When redemptions are enabled on the Ethereum network, by the Ethereum Foundation, wstETH can be redeemed for unstaked ETH and accumulated rewards.

wstETH on Arbitrum: 0x1dca41859cd23b526cbe74da8f48ac96e14b1a29

1. Explain positioning of the token in the AAVE ecosystem. Why would it be a good borrow or collateral asset?

The below shows the effect that listing of stETH has had on the Aave v2 Ethereum Mainnet deployment. stETH drives most of the wETH borrowing demand and the resulting fee-revenue. The wETH reserve generated approximately \$125k in revenue during November, \$217k during December and has already generated \$280143k by mid January 2023.

1. Provide a brief history of the project and the different components: DAO (is it live?), products (are they live?). How did it overcome some of the challenges it faced?

The below provides a brief overview and some key dates of interest providing insight into the history to stETH and wstETH:

- stETH deployed on 17th December 2020
- stETH listed on Aave v2 on the 27th February 2022
- wstETH deployed 5th August 2022
- wstETH to be listed on Ethereum v3 deployment discussion 11th October 2022

Lido Protocol stETH is considered the most dominant staked ETH utility token across the industry. stETH tokens make up 29.5% of all staked ETH deposits.

1. How is wstETH currently used?

Aave v2 on Ethereum is the largest holder of stETH.

Deploying wstETH on Arbitrum, along with on other networks like Optimism, will make the token available to Aave users on Layer 2 networks in the same way stETH is available on Ethereum Mainnet. It will also enable DeFi protocols and products on Arbitrum to build interesting and exciting new use cases by utilizing integration with Aave to access the wstETH market.

InstaDapp, Index Coop, Galleon DAO, and others have all built products on top of Aave utilizing the recursive stETH/ETH strategy. By adding wstETH to the Arbitrum Liquidity Pool, Aave moves closer towards enabling developers to deploy similar products on Arbitrum.

On Arbitrum, wstETH is mostly used for providing liquidity on various incentivised decentralized exchanges.

The chart below shows a clear upwards trend for wstETH migrating to Arbitrum. The introduction of the Curve Liquidity Pool in November had a material impact on the distribution of wstETH on Arbitrum.

1. Emission schedule

There is no emission schedule.

1. Token (& Protocol) permissions (minting) and upgradability. Is there a multisig? What can it do? Who are the signers?

For details on stETH, which is already listed on Aave v2 Ethereum, please refer to the forum post shown below:

- [ARC: Add support for stETH \(Lido\)](#)

The custom bridging contracts for the Arbitrum native bridge have been developed by the Lido DAO team, in collaboration with the OffChain Labs team. The code was submitted for audit and the audit report can be found below:

- [audits/Oxorio Lido L2 Smart Contracts Security Audit Report 07-2022.pdf at main · lidofinance/audits · GitHub](#)

The Arbitrum bridge was deployed by Lido DAO on L1 and L2 (Arbitrum One). The upgrade of Lido's L1 requires a Lido DAO vote. Just like the L1 part of the setup, the L2 deployment of the Arbitrum bridge contracts is also designed to be upgradeable. The L2 upgrades are implemented via governance approval on Ethereum and leverages the Aave Governance Cross-Chain bridges contracts. As a result of the collaboration between Lido DAO and Offchain Labs, bridging wstETH tokens works the same as regular Arbitrum bridging and the user experience of the native bridge is the same. The parts of Arbitrum bridging which are controlled by Arbitrum/Offchain Labs can't be changed by Lido DAO.

For security, Emergency Brakes multi-sigs have been set up on Arbitrum. The multi-sig can pause deposits/withdrawals. However, only the Aragon Agent is capable of resuming bridge operations. The Arbitrum multi-sig address is shown below:

- Arbitrum: [0xfDCf209A213a0b3C403d543F87E74FCbcA11de34](#)

The multi-sig composition is 3 from 5 of the following signers:

- [@psirex](#) with address 0x2a61d3ba5030Ef471C74f612962c7367ECa3a62d
- [@vsh](#) with address 0x2a96805188e583dd760785A0dE93128504DDd5c7
- [@kadmil](#) with address 0x6f5c9B92DC47C89155930E708fBc305b55A5519A
- [@ujenjt](#) with address 0xdd19274b614b5ecAcf493Bc43C380ef6B8dfB56c
- [@folkyatina](#) with address 0xCFfE0F3B089e46D8212408Ba061c425776E64322
- Market data (Market Cap, 24h Volume, Volatility, Exchanges, Maturity)
- Market capitalisation: \$7,691,227,377
- 24H Volume ~\$50M (stETH + wstETH)

Decentralized exchange liquidity pools

Balancer

- [wstETH/WETH - 0xFB5e6d0c1DfeD2BA000fBC040Ab8DF3615AC329c](#)
- [wstETH/USDC - 0x178E029173417b1F9C8bC16DCeC6f697bC323746](#)

Curve

- [wstETH/ETH - 0x6eb2dc694eb516b16dc9fbc678c60052bbdd7d80](#)

Kyber Network

- [wstETH/ETH - 0x2149a5f5d7ca96eb98a2ee6e5b0ba1a5593a1a0a](#)
- [wstETH/USDC - 0x7acbea3b8ab7cdf4a595c6ed81e7d3e26038d494](#)
- Social channels data (Size of communities, activity on Github)
- Discord: [45,198](#) members
- Twitter: [119.4k](#) followers
- Github: [186](#) followers
- Contracts date of deployments, number of transactions, number of holders for tokens

The below applies to just wstETH on Arbitrum:

- Date of Deployment: [August, 04 2022](#)
- Number of Transactions: [529,115](#)

Number of holders for token: [14,679](#) (liquidity pools are recorded as 1 address)