Abstract

We believe that the Arbitrum token needs native utility. We propose a locking mechanism that distributes token inflation to token lockers. We believe this would not only incentivise token holders but also help become a fundamental building block towards future proposals for more token utility in the future (e.g. sequencer revenues).

The Arbitrum DAO is entitled to mint up to 2% of the total supply of ARB as inflation per year and use this in any manner they see fit. This functionality already exists within the ARB token contract. However, the first opportunity to mint tokens is on March 15th, 2024 since the mint function can only be called once per year.

We propose minting 1.75% of the token supply and distributing this over a period of one year.

However, because the mint function is not yet available, we propose using an equivalent amount of funds from the Arbitrum DAO treasury along with a mechanism for distributing it among ARB lockers. The funds used from the treasury would be replenished through minting on March 15th, 2024 when the annual mint function becomes available.

Not only does this benefit ARB lockers, but it would also act as a precedent and stepping stone towards future actions, such as distributing DAO revenue where applicable. Finally, adding a locking mechanism that generates native yield in ARB would successfully differentiate the ARB token from competing L2s and offer a new level of composability within any application that integrates the ARB token.

We'd also like to thank the following delegates and several others for their valuable feedback during the process of drafting this proposal.

Westie from Blockworks Research

Coinflipcanada

Dopex

And several others

Motivation

The Arbitrum DAO is entitled to mint up to 2% of the total supply of ARB as inflation each year, as per the docs below. The total supply of ARB is 10B tokens, of which 2% is a total of 200M tokens.

docs.arbitrum.foundation

$ARB airdrop eligibility and distribution specifications | Arbitrum DAO -...

Learn about the $ARB airdrop eligibility and distribution specifications.

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1254×534 125 KB

](https://global.discourse-cdn.com/standard17/uploads/arbitrum1/original/2X/1/14986871d29e2a7aa41eba032c65b704b8c2d007.png)

In addition to having the capability to mint 2% of the total supply annually, all surplus revenues belong to the DAO (source tweet below).

twitter.com

Arbitrum (,)

@arbitrum

In total:

The Arbitrum DAO has accumulated ~3,352 ETH in revenue, The Sequencer will be refunded ~5,954 ETH which is the cost for posting all data to the Ethereum network.

How exciting is that?

12:14 AM - 10 May 2023 290

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We believe that a locking mechanism is a suitable method to distribute these funds, and would be an efficient way to distribute ARB tokens to those most aligned with the ecosystem. This locking mechanism may also be modified in the future to accommodate future AIPs, such as decentralising the sequencer.

Broader Implications for Arbitrum

We believe that this proposal passing would have extremely positive implications for the entire Arbitrum ecosystem. Having a native staking model that is officially approved by the DAO would be likely to have the following consequences:

- Significantly increase interest in Arbitrum and the ARB token
- Allow for composability around a yield-bearing ARB token
- Reward long-term aligned stakers with yield, while penalizing mercenary capital and short-term actors
- Positively differentiate ARB from any other L2 tokens and bring the spotlight back to Arbitrum
- Offer a first step and infrastructure towards introducing other forms of revenue sharing in the future

It is important to acknowledge and explore the consequences of the fact that the source of yield would, for now, be entirely inflationary. However, this should be put into context - we believe that 1.75% annual inflation of the total supply is not meaningful in terms of increased dilution or sell pressure, given that the rewards will be going to users that are long-term aligned with Arbitrum and willing to lock their tokens for up to a year. In our opinion, the benefits detailed above far outweigh the potential concerns around dilution.

Benefits for Users

By introducing a staking contract that responsibly distributes the allotted 1.75% annual inflation of the total ARB supply to users who are willing to lock their ARB, the incentives are aligned in a way that rewards those parties most loyal to the Arbitrum ecosystem. This includes not only long-term holders of ARB but also DAOs that have received an airdrop and are willing to lock their tokens.

The figures below detail possible APRs for stakers at different staked percentages if 1.75% of the total supply was minted annually. The current circulating supply of ARB is 1.275B.

% of circulating ARB staked

Estimated APR %

100

13.73

50

27.45

25

54.90

10

137.25

Specification

- The ARB staking contract will allow users to lock their ARB for up to 365 calendar days. A user’s weight is proportional to their lock time.
- Users may increase their lock times
- Users may pause their lock times (meaning the time to unlock does not increase - this saves having to relock continuously)
- Users may have many independent locks
- Users will receive and may claim ARB emissions according to their weight.
- A user may exit their lock for a penalty between 0-80% of their lock amount, linear vs lock time remaining (365 days remaining would mean an 80% penalty, 0 days would be a 0% penalty). This penalty is shared between remaining users according to weight.

Example Usage: ARB locker

- User locks 100 ARB for 365 days.
- The lock weight formula is (ARB amount locked * lock time / 365)
- Their ARB lock ‘weight’ is currently 100 (100 ARB * 365/365).
- All rewards are distributed based on a user’s weight / the total sum of all the users’ weights.
- The lock weight formula is (ARB amount locked * lock time / 365)
- Their ARB lock ‘weight’ is currently 100 (100 ARB * 365/365).
- All rewards are distributed based on a user’s weight / the total sum of all the users’ weights.
- After 182.5 days, user will have a lock ‘weight’ of 50 (100 arb * 182.5/365).
- At this point, they may choose to increase their lock time, do nothing, or withdraw.
- The early exit penalty is (0.8 * locktime / 365)%.
- For a lock time of 182.5 days, the penalty is therefore 40% of the locked amount - if the user were to withdraw now, they would receive back 60 ARB.
- At this point, they may choose to increase their lock time, do nothing, or withdraw.
- The early exit penalty is (0.8 * locktime / 365)%.
- For a lock time of 182.5 days, the penalty is therefore 40% of the locked amount - if the user were to withdraw now, they would receive back 60 ARB.
- User is able to delegate voting power during this time - voting power is not affected by lock length

Frequently Asked Questions

1. Why token inflation?

This mechanism is already built into the constitution, allowing for participants that are long term aligned to increase their share of the token. In addition, it gives a native and safe alternative to holding or farming in DeFi protocols, and allows us to set a baseline yield for ARB.

1. Why a locking mechanism?

A locking mechanism allows users who are long term believers in Arbitrum to signal this belief through their actions and get rewarded for it accordingly. Locking for longer is always optional - users may lock for any time period of their choosing. We believe that 1 year is a reasonable lock time as compared to the previously popular 4 year locking model. We believe that this is not too long such that it disincentives locking, as users have the optionality to choose the lock duration.

1. What are the consequences of this proposal?

Ultimately, this proposal introduces utility to ARB and gives users more incentive to hold. In addition, long term believers will be net increasing their share of the network, which

sets up a base from which we can build further proposals for ARB value accrual without having to worry about the distribution mechanism.

1. Should vesting investor and team tokens be allowed to lock?

We hold a neutral view on whether investor and team tokens should be allowed to lock. For context, team and investor unlocks begin in March 2024 and continue monthly from there on out for the following four years. Several things should be considered in making the decision. Typically vesting tokens cannot earn yield, however investors and tokens from the team could be considered long-term investors depending on your perspective. We appreciate your comments and thoughts on the topic!

Summary

As it stands today, ARB holders have no native utility or yield. We propose the creation of the staking contract detailed above, which allows long-term ARB stakers to keep up as the circulating supply rapidly grows.

We propose minting the 1.75% of eligible ARB to the staking contract above once enabled on March 15th 2024. Until then, an equivalent amount of funds would be taken from the Arbitrum DAO treasury and replenished with the mint when available. The exact amounts would be dependant on when this proposal passes and is enacted upon.

It is important to note that ARB staked in this contract will still have voting rights / be able to be delegated. The staking contract will be upgradeable and controlled by the DAO - this ensures that the DAO is able to pause this distribution at any time.

Timeline

This proposal will follow the official lifecycle of an AIP detailedhere. In order to maximize alignment with the community, we want to add a step before doing a temperature check. This first forum post will not include a Snapshot vote, but is rather a way of asking for comments and generating discussions, after which the proposal will be amended with feedback and then move to a temperature check and forwards.

Pending a successful Snapshot and subsequent Tally vote, we suggest that the locking mechanism goes live as soon as possible after clearing audits.

The suggested timeline can be found below.

Week 36-37 - Forum post & request for comments and feedback (1 week)

Week 38 - Temperature check forum post & Snapshot poll (1 week)

Week 39 - Formal AIP and call-for-voting (3 days)

Week 39-41 - On-chain DAO vote on Tally (14 days)

Week 42 onwards - Implementation phase

If the proposal passes, a draft of the implementation phase is detailed below in “Steps to Implement”. The final implementation schedule is dependent on the result of the community review, audit schedules and subsequent findings. A concrete schedule for the implementation stage will thus be locked in at a later stage.

Suggested Steps to Implement

1. PlutusDAO will provide the contracts for ARB staking according to the above specification
2. Contracts will be provided to the community for review for a period of 2 weeks
3. Contracts will be audited by a top-tier audit firm chosen by the Arbitrum DAO
4. Contracts to be deployed to Arbitrum and owned by the Arbitrum DAO
5. Ratification of reimbursement of costs as illustrated in the Cost sections below and disbursement of such reimbursements to applicable service providers

Costs

PlutusDAO will cover the costs of creating the contracts. The DAO is recommended to fund an independent audit. We do not foresee other costs involved with the proposal.