Abstract

karpatkey and Aera are proposing for the creation of Arbitrum Strategic Treasury Management Group and DAO Oversight Committee. This Group aims to provide services to the ArbitrumDAO treasury that will enable the DAO's long-term sustainability, whilst supporting the growth of the Arbitrum ecosystem. This program is fully non-custodial and the DAO can pull back funds anytime. The proposal kickstarts with Strategic Treasury Management of 250M ARB assets under management; this will allow the Group to manage ~2 years of runway.

Content

I. Motivation

Arbitrum is the leading L2 by all relevant KPIs, including number of protocols, TVL, and daily active address. ArbitrumDAO also has the 3rd largest treasury of any DAOs, but one key difference between Arbitrum and other protocols is the extent of independence and power given to the DAO from its onset.

Despite having the 3rd largest treasury of any DAOs, the ArbitrumDAO faces three main challenges with its current treasury (refer to VIII. Appendix: Motivations in-Depth):

1. Ensuring long-term sustainability

: treasury should be able to support ecosystem efforts through market cycles; in the long-run, DAO should be a self-sustaining vehicle, with expenses covered by yield generated from Treasury, without having to materially compromise Treasury principal.

1. Fostering ecosystem growth

: treasury should be used to foster a vibrant community of users and builders.

1. Transparency and accountability

: treasury should be expertly managed, and uses of the treasury should be transparent and held accountable to the DAO.

The Arbitrum Treasury and Sustainability Working Group and the broader Arbitrum community have previously researched and discussed the issues at depth, and there is a strong consensus that we need a more holistic approach towards managing Arbitrum's treasury to prevent inefficient decision-making processes and misallocation of resources. Arbitrum's impressive decentralization is a double-edged sword; the DAO can use its collective intelligence to make the best decisions, but without clear structure and oversight, conflicting opinions and divergent interests may hinder timely and effective resource allocation.

II. Expected Outcome

The Arbitrum Strategic Treasury Management Group aims to allocate assets within the Arbitrum ecosystem to ensure long-term sustainability and foster growth.

Three main areas of priority would be:

1. Ecosystem alignment and growth. Bolster ecosystem growth by utilizing Arbitrum's treasury via Protocol Owned Liquidity (POL).
2. Fortress balance sheet. Diversify Arbitrum treasury to build sufficient runway and resiliency to market downturns by reducing long-tail asset exposure. As the DAO is currently spending $97M+ per year, it is ideal to maintain a treasury

in excess of $200M.

3. Sustainability. Leverage Arbitrum DAO's treasury to generate sustainable yields via DeFi lending, staking, and liquidity provisioning. To reach sustainability at current spending levels, the DAO needs to eventually deploy $1.5B, targeting 6-8% APY.

Outcomes

- Yield Optimization Program aims to generate sustainable yields to fund the DAO's operations in a non-custodial and risk-minimized manner.
- DAO Owned Liquidity Program, with the goal of expanding ecosystem liquidity, attracting builders to Arbitrum, and deepening ARB on-chain liquidity.
- Treasury Diversification Program, to reduce long-tail asset exposure and capital raising.

III. Introduction to the Arbitrum Strategic Treasury Management Group and Tooling Providers

Initiative of Arbitrum Strategic Treasury Management Group will be led by karpatkey and Aera, combining experience across DAO treasury management and risk management.

About karpatkey

karpatkey is a DeFi-native organization specializing in providing financial services to DAOs. Since its inception in 2020, karpatkey has been a trusted partner to respected DAOs like Gnosis, Aave, and ENS, managing over $1bn in non-custodial assets. Through its comprehensive support in treasury management and financial operations, karpatkey empowers its partners to effectively pursue their missions. Leveraging its extensive experience, karpatkey will serve as the treasury manager, designing investment processes to meet the DAO's goals and constraints.

About Aera

Aera is an on-chain solution to autonomously optimize DAO funds. It addresses the common pain point of inactive treasury management that often hinders a DAO's ability to maintain runway, cover liabilities, and benefit from market growth. Unlike traditional institutions that rely on nimble managers for fund allocation, DAOs face a unique set of challenges that include governance and incentive alignment with external managers. To address these, Aera offers a unified solution for efficiently and transparently managing on-chain treasuries, grants, and incentive funds through customizable vaults. Aera vaults can hold stablecoins, native tokens, and other cryptocurrencies, with their objective functions tailored to each DAO's needs. Guardians leverage off-chain logic to automate rebalancing decisions, ensuring the vaults meet their objectives across various market scenarios and time horizons. Gauntlet will be the initial Guardian for the Aera vault operating under the direction of karpatkey and the DAO Oversight Committee.

About DAO Oversight Committee

We recommend creating a 3-member DAO Oversight Committee via a 1 week application period with a 5 day Snapshot vote. This committee will serve as a layer for checks and balances between the STMG and the DAO, and would be responsible for:

- Coalescing the DAO Treasury Mandate and setting the guardrails for the treasury vaults and tools.
- Evaluating the performance of the Strategic Treasury Management Group and confirming the accuracy of reporting.
- Facilitating governance procedure for capital recall process if the execution of the treasury management strategy diverges from the stated treasury mandate.

Committee members should be evaluated based on the following criteria:

- Familiarity with prudent treasury management strategies
- Level of engagement and activity in ArbitrumDAO to effectively act as DAO advocate
- On-chain literacy to verify the accuracy of treasury reporting

IV. Deployment Initiatives

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Treasury deployment can be broadly categorized by liquidity profile: liquid and illiquid. Liquid deployment varies from low-risk 'cash-equivalent' investments (staking, lending/borrowing, liquidity provisions), to higher-risk, strategic investments such as treasury swaps. Illiquid deployment is largely strategic in nature, and includes venture investments and M&A activities. As an example Alphabet has ~28% of its total assets in cash and other marketable securities, and ~8% of its total assets in non-marketable securities (including those invested by GV and CapitalG).

Strategic Treasury Management Group will focus on non-custodial, liquid deployment of Treasury to achieve synergy with pre-existing illiquid deployment discussions surrounding the Gaming Catalyst Program, Arbitrum Ventures Initiative, and Arbitrum M&A Working Group.

We are asking the DAO to allocate 250M ARB for the first tranche of the Arbitrum Strategic Treasury Management Initiative, in order to bolster the Arbitrum treasury's sustainability and strategic ecosystem deployment; based on the success of the initial deployment, size of the allocation can be increased via a future proposal.

The DAO Oversight Committee will be responsible for facilitating DAO governance process for recalling any deployed funds; whether for DAO financial requirements, poor performance by the Strategic Treasury Management Group, or any other reason.

Allocations & Monitoring

The specific strategies will be selected by the Strategic Treasury Management Group with guidance from the DAO Oversight Committee, providing an additional level of accountability and transparency.

Initial Targets

1. Yield Optimization Program (80%)
2. Deployment Strategies: Low-risk DeFi yield farming strategies, including staking, lending/borrowing, delta-neutral liquidity provisioning, cash-and-carry strategies
3. Purpose: help deliver base-line yield for Arbitrum treasury, and help fund DAO's operations and initiatives.
4. Performance metrics: APY, volatility (portfolio, yield); benchmarked against other DAO treasuries.
5. DAO Owned Liquidity Program (20%)
6. Deployment Strategies: Arbitrum-native LP strategies. Potential venues include, but are not limited to, GMX, Camelot, Aave, Uniswap, Radiant, Vertex, Silo, and more.
7. Purpose: increase ARB on-chain liquidity; potentially bootstrap liquidity in conjunction with programs like LTIPP and STIP.
8. Performance metrics: ARB on-chain liquidity.

V. Non-Deployment Initiatives

Treasury Statement ("TS")

- TS helps serve as a living document for the DAO to guide and contextualize its treasury decisions based on its needs and priorities. It also helps the DAO hold service providers accountable for the Treasury.
- The DAO Oversight Committee will work with the STMG to set the TS.

Financial Planning and Reporting

- Monthly Strategic Treasury Management Group reports, outlining strategies and performance. Updates will be shared via both live town hall meetings and governance forum updates.
- Real-time dashboards to track treasury performance, portfolio allocations, ecosystem performance and Arbitrum's financial health. These dashboards will include both Dune Dashboards maintained by karpatkey and Aera dashboards maintained by Aera Finance.

VI. Strategic Treasury Management Group Operating Model

Asset safety: Who oversees custody of assets?

- The DAO will retain full ownership of the assets and can withdraw at any time.
- The Strategic Treasury Management Group will serve as executor of treasury management strategies, deploying

assets to a set of strategies pre-approved by the DAO. The Group will not have withdrawal rights to the SAFE.

Asset safety: Who oversees deployment of assets?

- Role-based access controls will be pre-approved by the DAO Oversight Committee prior to deployment of assets, so only pre-approved transactions can be undertaken.
- Strategic Treasury Deployment Group dissolution rights
- DAO can shut down the structure and the group at any point in time via the standard Arbitrum governance process.
- The DAO Oversight Committee can call for dissolution of the Treasury Management Group via standard governance process, citing its reasons, at any time, if they see a divergence from the DAO treasury mandate.

How large should the liquid treasury management AUM be?

- In practicality, there is a full spectrum of DAOs (100% deployment into liquid assets to 0% treasury utilization) when it comes to Treasury Management. Comparable traditional Web2 companies hold 25-40% of total assets in liquid financial instruments (cash, cash-equivalents, and marketable securities, and accounts receivables) vs. 0-10% in illiquid investments (heavily erring towards the lower bound). Alphabet is the best example of a Web2 company with heavy emphasis on private investments, and they hold 39% of assets in liquid financial instruments vs. 8% in illiquid financial instruments. On Arbitrum, there is currently a total ask of $1.2B - $1.4B of deployment into illiquids (Gaming Catalyst Fund 135m ARB, M&A Unit $100-250m in ARB, Arbitrum Ventures Initiative $1bn in ARB). Simple comps with Alphabet will suggest liquid allocation in buckets of 690M ARB (on GCP alone) to 1.3B ARB (GCP + M&A). Starting with 250M ARB is a first step towards this portfolio composition.
- Some comparable structures in the traditional Web2 market are:
- Alphabet: 5.1x liquid financial instruments to illiquid financial instruments (28% of total assets in cash, cash equivalents, and marketable securities + 12% in accounts receivables vs. 8% in non-marketable securities (including ventures, M&A, etc.). Alphabet is the most active top tech company when it comes to private investments.
- Microsoft: 16.2x (27% of total assets in cash, cash equivalents, and short-term investments + 12% accounts receivables vs. 2% in equity investments)
- Amazon: 184.4x (16% of total assets in cash, cash equivalents, and short-term investments + 10% in accounts receivable vs. 0.1% in equity investments in private companies)

Performance: How to measure performance?

- Performance for the Strategic Treasury Management will be prepared and presented to the DAO on a periodic reporting basis (see “Reporting”). Performance should include both financial metrics and strategic (ecosystem) metrics.
- The DAO Oversight Committee will closely track performance and execution of the treasury strategy to ensure accuracy and accountability.

Reporting: How does reporting to the DAO work?

- Monthly update reports covering performance of treasury, and asset deployment breakdown
- Strategic Treasury Management Group will hold regular town hall meetings, updating the DAO
- The DAO Oversight Committee will ensure all reporting is accurate with performance.

Program Size and Expenses

- Initial tranche: 250M ARB
- Program operations: 1% management fees, no performance fees
- DAO Oversight Committee Members (x3): 5k ARB per month

Rationale for the fund size:

First tranche of 250M ARB, will allow the DAO to explore strategic treasury deployment, and cement treasury management framework. For the financial year ending Feb’24, DAO’s expenses were ~$97M ($94M for ecosystem development expenses comprising of STIP + DIS, $3M for grants program expenses, comprising of Plurality Labs Grants Program, Questbook Grants Program, and Rarible Protocol), so this will enable the DAO to ensure 2 years of runway is properly managed.

VII. Steps Forward

Strategising and execution of Strategic Treasury Management of Arbitrum treasury is crucial for long-term sustainability of the DAO and for ecosystem alignment. We would like to encourage all feedback to the proposal and the topic of treasury management in general.

We look forward to your feedback and advancing this further!

VIII. Appendix: Motivations in-Depth

Motivation #1:

Long-term sustainability

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More than 98% of Arbitrum's treasury is currently in the DAO's native token (ARB). A simple portfolio analysis shows the following:

- Historical daily return of ARB has been -0.11%
- Daily standard deviation value of 4.4%
- 95% value-at-risk (%) of -7.1% i.e. in any given day, there is 5% chance of portfolio losing 7.1% of its value

The sheer size of the DAO Treasury can give the illusion that spending can be indefinitely funded. During the latest '22-'23 bear market, many L1 / L2 tokens saw ~90% drawdowns (e.g. $SOL dropped from $250 at its peak to $10, $AVAX dropped from $125 at its peak to $9). Many had to downsize their operations and some even shut down, but the well-prepared ones were able to continue incentivising and growing the ecosystem, as they managed to raise significant amounts of money (fiat, stablecoin) during the bull market. Although it is only natural that the DAO be wholly invested in the success of the ecosystem, it also needs to ensure prudent risk management, and diversify in order to ensure sustainability over extended periods of market volatility. A standard practice is ensuring 1.5 to 2 years of runway.

Maintaining runways is even more important in cases of deficit spending, as is the case with ArbitrumDAO. For the year ending February 2024, the DAO had an annual gap of -$61M due to its high annual spend rate on grants and incentives ($97M; also worth noting these numbers do not yet include STIP Bridge and LTIPP) vs. net network revenue of ~$21M. There are a few concomitant problems:

1. Reduction in principal of the Treasury.
2. Large selling pressure in ARB: grantees most likely need stablecoins to fund their operations, and may sell ARB in a non-optimal manner with high(er) price impact. This historically has manifested in two ways:

a. Protocols receive large grants for incentives (STIP, LTIPP, etc.) to be disbursed at the same time, protocol users look to realize their boosted yield relatively immediately, large amounts of ARB is sold at the same time leading to large amount of selling pressure indiscriminate of market conditions.

b. Contributors receive grants to cover operations denominated in USD. These contributors often either pay a market maker a large fee to swap the tokens at a set price, take on market risk, or take slippage from selling large amounts of ARB when liquidity is not optimal.

It's also worth highlighting that while the DAO has several illiquid initiatives, including Gaming Catalyst Program (passed Tally), M&A Unit (in-discussion), and Arbitrum Ventures Initiative (in-discussion), there are currently no non-custodial liquid initiatives under way. Traditional web2 companies usually have a much larger deployment to liquid holdings/investments vis-a-vis illiquids, given the need for liquidity and yield generation.

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Motivation #2:

Fostering the Arbitrum Ecosystem

One of Arbitrum's competitive advantages is its liquidity and reputation as a DeFi-friendly chain. As many other L1 and L2 ecosystem's begin utilizing their treasuries to bolster onchain activity, it is important to evaluate the balance between renting and owning liquidity.

Currently, Arbitrum is primarily spending its treasury on the following:

1. Incentive programs to foster user/liquidity acquisition and can attract builders (Cons: liquidity and users tend to be mercenary, and non-sticky)
2. Exploring strategic, illiquid investment initiatives to foster Arbitrum's suite of builders and technology (Cons: Takes a relatively long period of time to come to fruition, and requires largely unexplored legal structure for the DAO to make such investments)

Beyond these two strategies, the Arbitrum DAO should begin deploying the DAO treasury for Protocol-Owned Liquidity. This will allow the DAO to:

1. Maintain strong liquidity regardless of market conditions or incentive spending
2. Generate some LP yield
3. Recall the tokens for other purposes in the future

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Appendix IX. Architecture for Treasury Management

Architecture for Strategic Treasury Management Tooling

We aim to define and implement a robust architecture for strategic treasury management. This architecture enables non-custodial treasury management, incorporating role-based access controls preapproved by the community enabling treasury diversification and yield optimization. This system will ensure the ArbitrumDAO retains full control over fund retrieval and permission management, facilitated through Safe multi-sig, and treasury deployment aligns with the stipulations of this proposal. Separate proposal, outlining tooling architecture and set of permissions granted to the Strategic Treasury Management, will be put forward to the DAO.

Safe + Zodiac Roles Modifier Module

Safe is the account abstraction leader on Ethereum and EVM, and it has the most secure smart wallet infrastructure and platform. It is estimated that 6.3M Safe wallets have been deployed, protecting $91Bn in different crypto assets. ArbitrumDAO has an extensive track record of using Safe accounts for different purposes, spanning from committees to deployers of Arbitrum contracts.

Zodiac Roles Modifier is a Safe module that allows the owners of an address to grant role-based permissions for specific actions that can only be carried out within approved contracts and functions. The Roles module allows the owner of a Safe (called Avatar) to create a role for a particular address (named Manager) that is then authorised to run specific operations (presets). This module is configurable, allowing full customisation of the target, method, and parameters to be used.

Through a combination of Safe and Zodiac Module, ownership and custody of the funds do not need to be altered vis-a-vis any previous setup since a Safe can inherit the type of ownership any previous solution had. As a result, the owner of the Safe has complete control, including movements of assets, installing modules, and granting permissions via the Roles Modifier.

To configure the Roles Modifier, a group of actions called "permissions policy" is configured simultaneously and aggregates all the critical actions needed to manage a specific strategy. For example, to allocate liquidity to a DEX pool, a permissions policy may include approving the transfer of assets, depositing and withdrawing liquidity, and claiming interest. In a single transaction, the Avatar can delegate all future responsibility for managing that specific strategy to a Treasury Manager. For Roles Modifier, an action must have a specified target and method. It may also enforce thresholds and values on the parameters used and limit how often a specific action may be used.

karpatkey currently uses the Safe and Zodiac Roles Modifiermodule to manage treasury for DAOs including Gnosis, Aave, ENS and Balancer, as well as its own treasury.

Aera

Aera is a solution for optimizing DAO funds autonomously and on-chain. For most DAOs, treasury funds (e.g., reserves, treasuries, safety modules, backstops) are not actively managed or adjusted based on market conditions. For DAOs, this can lead to an inability to maintain runway, cover liabilities, and benefit from growth in the market. Traditional institutions can allocate funds to more nimble managers who make day-to-day decisions, but DAOs face numerous challenges with this model including governance and creating strong incentive alignment with external managers.

Aera provides DAOs with a one-stop solution for managing onchain treasury, grant, and incentive funds efficiently and transparently. The Aera protocol consists of vaults, which are constructed on a per-protocol basis and can hold a combination of stablecoins, native tokens, and other cryptocurrencies. Each DAO determines the objective function of the vault and is highly customizable ranging from simply keeping fund proportions in line with marketcaps, to sophisticated liquidity strategies to support your ecosystem's growth. Vaults are automatically rebalanced by Guardians who support the DAO's objective function leveraging offchain logic to power onchain rebalancing decisions. This ensures that the vault objective is met across a wide range of market scenarios and time horizons.

Aera integrations include Uniswap, Aave, Compound, Bebop, and other onchain venues. Integrations with Camelot, Radiant, Silo, and more on the way. Aera is currently utilized by Compound DAO, Threshold DAO, Questbook (for Arbitrum grant management), Seamless, and more.

Below is an image of how Aera works.

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