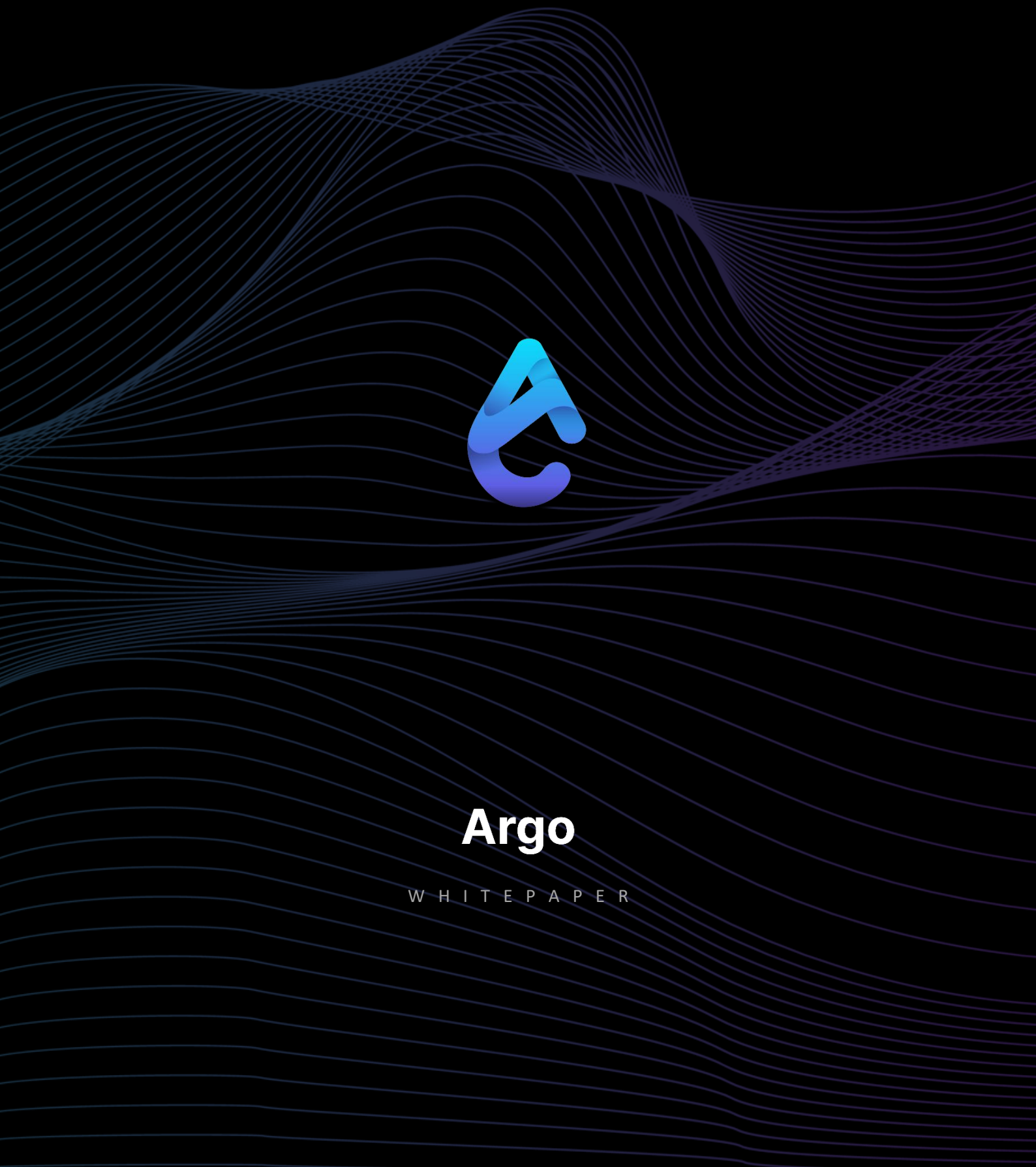

Argo

WHITEPAPER

The Premier Liquid Staking Protocol on Cronos

00

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01

Executive Summary

Executive Summary 01

Argo is the premier liquid staking protocol built on top of the Cronos blockchain that aims to unlock the value of all staked CRO and maximize the capital efficiency of CRO across the Crypto.com ecosystem.

Currently, CRO staking is and has been a very attractive and low-risk way of earning yields on top of your CRO holdings, offering users 10-12% APY on staked CRO. However, staked CRO are essentially locked up and inaccessible to stakers. Stakers who wish to unstake their CRO will have to wait for a 28-days unbonding period before their CRO becomes accessible again.

Argo offers an alternative to this with CRO liquid staking, improving capital efficiency without compromising network security. This is made possible through the issuance of bonded CRO ("bCRO") which is a liquid staking derivative that represents your staked CRO and can be utilized across the DeFi ecosystem in Cronos to generate additional DeFi yields.

02

Argo’s Vision and North Stars

Argo's Vision and North Stars 02

1. Unlock the value of staked CRO to be utilized across the Cronos ecosystem and drive CRO capital efficiency

2. Increase the ease of managing CRO capital efficiency and making it seamless and frictionless for users to maximize their CRO yields

3. Serve as the underlying liquidity layer for CRO and bonded CRO ("bCRO") across the Cronos ecosystem

03

Introducing Argo

Introducing Argo 03

At our core, Argo offers two main products:

1. CRO Liquid Staking

Argo is the premier liquid staking protocol built on top of the Cronos blockchain. You can easily stake your CRO on Argo in a single click and receive bonded CRO tokens (“bCRO”) in return.

bCRO can be subsequently used across decentralized finance (DeFi) applications across Cronos and accrue additional DeFi yields on top of CRO staking yields, essentially double-dipping and improving your capital efficiency.

You can withdraw your CRO anytime by unstaking and waiting for the unlock period. Alternatively, you can directly swap bCRO back to CRO on the secondary market.

2. Argo DeFi Vaults

Argo DeFi Vaults is Cronos' first one-click yield optimizer for single-sided staking CRO and allows users to earn higher APR than simply staking their CRO.

Argo's liquid staking module made it possible for users to enjoy earning CRO staking yields on Cronos and opens up the possibility of earning DeFi yields on top of that.

Argo's DeFi Vaults run strategies that aim to maximize the CRO staking yields earned by users who staked their CRO on Argo.

04

CRO Liquid Staking

CRO Liquid Staking 04

Liquid staking on Argo is an alternative to traditional staking with a validator. It allows you to stake your CRO on Argo and receive bonded CRO ("bCRO"). bCRO that you receive represents your staked CRO and acts as a receipt, allowing you to exchange them later on for your staked CRO and the earned rewards.

bCRO is a liquid, tokenized representation of the Staker's staked CRO. bCRO enables stakers to gain liquidity over their staked CRO and enables the locked value of the staked CRO to be utilized across decentralized finance applications across Cronos.

Benefits of Argo Liquid Staking:

Simplicity

Argo offers a simple and one-click liquid staking feature for users to stake CRO on Cronos. Currently, there are no CRO staking option on Cronos. Argo not only makes it possible to stake CRO on Cronos but extremely easy and seamless as well.

Capital Efficiency

With a fully liquid derivative token (bCRO), users are opened up to the possibility of using their staked assets across other DeFi applications. Users no longer have to choose between staking CRO (locking up CRO) or using that asset value as liquidity across decentralized exchanges or provided as collateral in lending platforms. You can now earn DeFi yields on top of staking yields!

Instant Liquidity

Users do not have to wait for the 28 days unbonding period to unstake their CRO and get back their assets in their wallets. Instead, bCRO can be immediately swapped for CRO across secondary markets such as decentralized exchanges. We believe the secondary market will be extremely attractive to two stakeholders in the Cronos ecosystem:

1. **Stakers:** Stakers who wants instant liquidity Immediately swap your bCRO to CRO without waiting for the 28 days period across our DEX partners.

2. **bCRO <> CRO Arbitragers:** Since instant liquidity to swap bCRO to CRO will result in CRO trading at a premium (liquidity premium) to bCRO. Arbitragers who are bullish about CRO can essentially buy bCRO at a discount and go through the normal 28 days unbonding period to receive more CRO after the unbonding period ends.

Diversified Validator Management

Our Validator Delegation Strategy aims to optimize staking returns and reduce slashing risks as we spread the staked CRO across multiple high quality validators.

Reduced Slashing Risks

Argo diversifies all staked CRO across a multitude of whitelisted high-quality validators who were selected based on meeting certain threshold performance criteria (Uptime, Commission %, self-staking, Oracle Sign %).

With Argo liquid staking solution, users are delegating their CRO to a multitude of validators rather than just one. Due to the fungibility of bCRO, the cost of slashing is thus spread across multiple protocols. This design is inspired by the Bonded Asset (bAsset) design of Anchor Protocol on Terra.

05

Argo DeFi Vaults

Argo DeFi Vaults 05

Overview

Argo secondary core product is the Argo DeFi Vaults. Argo will be implementing proprietary strategy vaults to optimize CRO yields. Argo DeFi Vaults will be a significant gamechanger to the dynamics of CRO staking and introduce automated strategies such as auto-compounding and auto yield harvesting.

We want to seamlessly maximize CRO yields and will be introducing the first-ever CRO vaulting solution on Cronos accessible to both new and native DeFi users.

Current Challenges on Cronos

The Cronos ecosystem is growing exponentially in both TVL and number of protocols. We want bCRO to be the core asset of Cronos, and for our users to take advantage of these yields on top of CRO staking rewards.

However, most users face **three core problems with yield strategies:**

- **Selection:** Finding a high APY yield farm is easy, but for newer users, selecting one that isn't innately risky is a bigger challenge
- **Execution:** Time and effort needed to implement more complicated strategies across multiple protocols
- **Maintenance:** Actively maintaining your positions, from compounding to risk management

How will Argo DeFi Vaults Work?

Our vaults aim to solve this problem by providing users with **one-click access to various DeFi strategies using liquid staking bCRO.**

By utilising our vaults, our users will have access to:

- **Optimal yields** from a set of curated protocols across the ecosystem
- **Easy one-click delegation** from CRO for strategies that would otherwise require multiple steps to manage
- **Auto-compounding and position management** so you don't have to worry about it yourself

Lastly, our vault users will also have access to boosted yields, which is explained in detail in the Boosting Mechanism section in the later part of the paper.

06

Delegation Strategy

Delegation Strategy 06

Argo places the utmost importance in our validator selection criteria so as to ensure that all assets (CRO) staked with Argo are staked with the highest quality and best in class validators on the Crypto.org Chain.

To be part of the whitelisted validators list, validators will have to fulfil the **minimum performance criteria**:

- Uptime
- Minimum self-stake / self-delegation requirement
- Average staking returns & commission %

Initial phase – Whitelisted Validators

In the initial phase, Argo will be selecting the initial list of validators based on the above criteria curated based on the goal of minimizing slashing risk and maximizing staking returns. Argo will start off by delegating an equal proportion of CRO across 5-10 whitelisted validators.

Mid-term – Algorithmic Selection

In the future, Argo will rely on an algorithm curated which balances the above criteria with the goal of minimizing slashing risk and maximizing staking returns.

Long-term – DAO Governed CRO Delegation Gauge

Once Argo is sufficiently decentralized, we will transition into a DAO model where validators can lock ARGO to vote in our delegation gauge to determine the proportion of CRO being delegated to respective validators. A slashing insurance fund will also be insured by validators based on their xARGO token staked.

07

Bonded CRO (“bCRO”)

Bonded CRO (“bCRO”) 07

bCRO is a liquid, tokenized representation of the staker’s staked CRO. bCRO enables stakers to gain liquidity over their staked CRO and enables the locked value of the staked CRO to be utilized across decentralized finance applications across Cronos.

Exchange Rate

- **Price of bCRO** = (Total CRO staked + Total CRO staking rewards) / bCRO in circulation
- **bCRO in Circulation** = Total bCRO minted - Total bCRO burnt

Whenever a CRO is staked on Argo, an equivalent amount of bCRO is minted based on the current bCRO:CRO exchange rate on Argo. Argo can only mint new bCRO whenever CRO is staked on the protocol. Vice versa, Argo can only burn circulating bCRO whenever CRO is unstaked from the protocol.

This thus ensures that the bCRO: CRO exchange rate on Argo is ever increasing according to the CRO staking yields emitted by Crypto.org Chain. Only in the scenario of a validator slashing event or smart contract exploit will the exchange rate be affected. Our delegation strategy aims to minimize slashing risks.

bCRO DeFi Utility

We understand that in order to realize the benefits brought about by CRO liquid staking, bCRO has to be an asset utilized and accepted across DeFi applications in Cronos.

With our first partnerships, **bCRO utility will be centred around:**

1. **Liquidity Provision on Decentralised Exchanges**

   bCRO holders can provide liquidity in liquidity pools to earn trading fees and yield farming rewards.

   bCRO/CRO pool: This pool aims to be a stable pool as bCRO and CRO are essentially pegged assets with a slowly increasing exchange rate of ~11-12% a year and thus very minimal impermanent loss. We aim to drive deep liquidity into this pool to reduce slippage until a stableswap DEX with deep liquidity launches Cronos.

   bCRO/XXX pool: Other bCRO pairs essentially provide the same utility as the equivalent CRO pairs. These pools will gradually be introduced after bCRO/CRO pool has established sufficient deep liquidity and as bCRO TVL gradually rises. (i.e. bCRO/USDC, bCRO/ETH, etc.)

2. **Collateral for Lending on Money Markets**

   Collateral: bCRO can be used as collateral for lending or be supplied out on money market platforms. bCRO can also act as a useful asset for leverage on CRO as users use bCRO as collateral to borrow more CRO to stake on Argo and loop the process.

Future Utility & Partnerships:

We will be actively onboarding new and high-quality partners across Cronos to further increase the utility of bCRO. Potential partnerships:

DeFi Option Vaults: bCRO used as an asset in covered call and covered put vaults.

Lossless Pools: bCRO as an asset within lossless prediction pools

GameFi: bCRO as an asset usable within Play-to-Earn and Play-and-Earn games

Stablecoin Collateral: bCRO utilized as collateral for certain decentralized stablecoins

Our long-term goal for bCRO is to be the asset used in place of CRO as the capital-efficient currency of choice in the Cronos ecosystem.

08

Token Economics $ARGO

Token Economics $ARGO 08

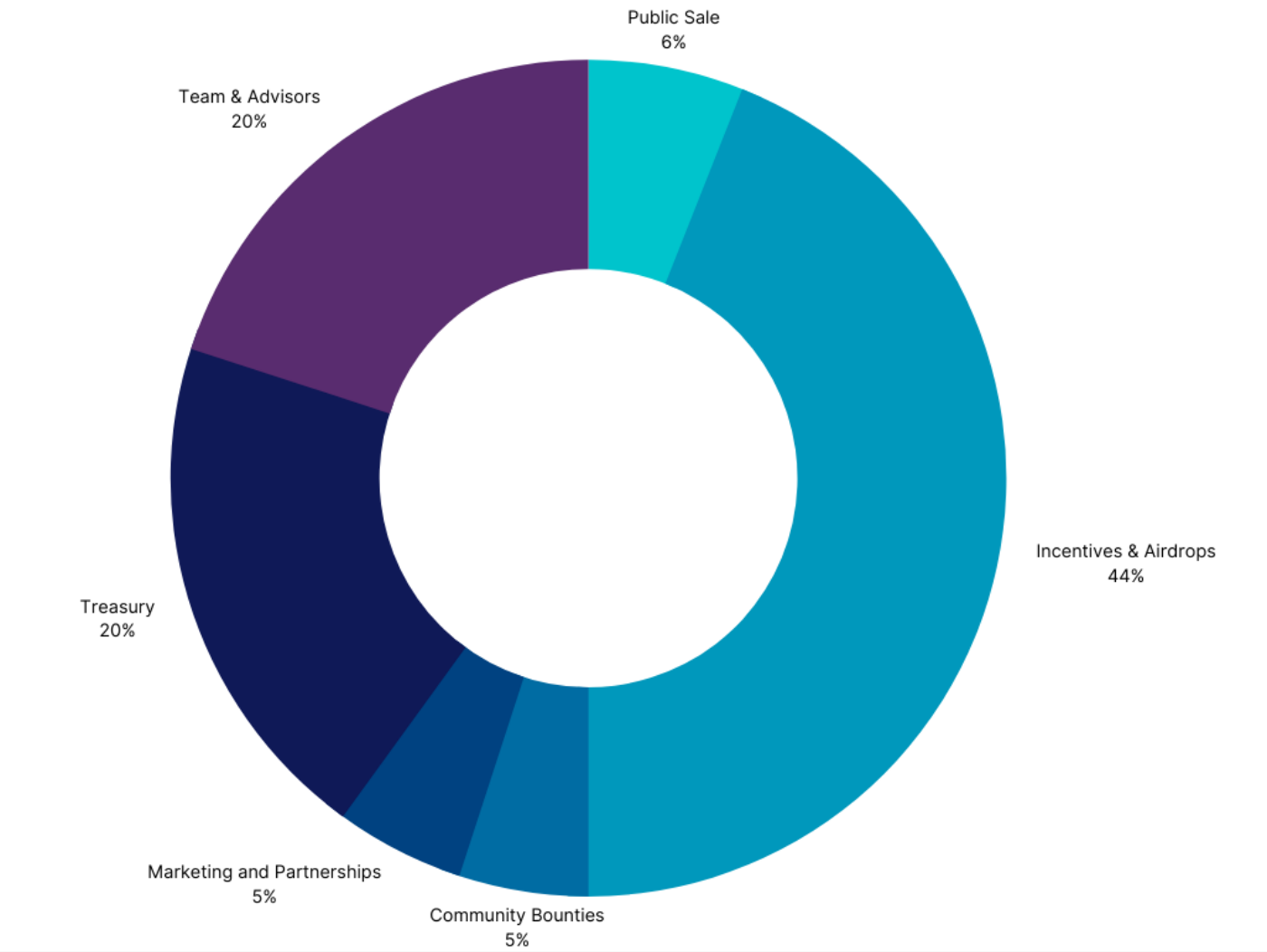
$ARGO token is the native token of Argo. It is designed to capture a portion of our protocol's revenues, as such, its intrinsic value should and will scale according to Argo's TVL.

Design Principles

We are guided by **5 key principles**, which inspires the design of our token:

- **Provides clear utility** (and a redemption mechanism) for governance tokens
- **Stabilizes and grows** the price of the governance token
- **Incentivizes deposits** of LPs effectively according to ecosystem needs
- **Promotes sustainable growth** in protocol wealth
- **Aligns incentives** for long-term holders Vs. mercenary capital

Distribution



Total Supply: ARGO has a total fixed supply token capped at 1,000,000,000 $ARGO

Category	Allocation	Vesting Schedule
Incentive Programs & Airdrops	44%	Distribution determined based on individual liquidity mining program
Community Bounties	5%	Distribution determined based on Community Bounty Programs
Marketing and Partnerships	5%	No vesting
Treasury	20%	No vesting
Team & Advisors	20%	24 months linear vesting
Public Sale	6%	Instant Unlock

Introducing xARGO

xARGO is a time-locked version of ARGO which allows you to vote in governance and earn protocol fees. There is a 28 days unstaking period for xARGO.

xARGO can be obtained from liquidity mining rewards or by locking your ARGO.

Actions to take after obtaining xARGO:

1. **Pledge xARGO**

   You can pledge your xARGO in Argo Protocol and doing so will provide you with the following benefits:

   - **Share of Protocol Revenue (Yield in CRO):** 50% of all protocol fees will be routed to xARGO pledgers
   - **Voting Power:** Voting power in governance votes

     $$\omega^i = \sqrt{\nu^i \times MRLE^i},\ 0 \leqslant MRLE^i \leqslant (100 \times \text{xARGO pledged})$$

   - **Earning Penalty fees:** Penalty rewards from xARGO holders who instant unlock and pays a penalty fee.
   - **Gain MORALE for Boosting Vaults APRs:** Boosted APRs applied to Argo Vault APRs (Refer to Boosting Mechanism section)

2. **Wait 28 days to Unstake xARGO into ARGO**

   Should you decide to convert xARGO back into ARGO, one option is to wait for the 28 days timelock to expire. At the end of the timelock, you'll receive ARGO in return.

3. **Instant Unstake xARGO Into ARGO (50% penalty fee)**

   You will have the option to break the 28 days xARGO time lock and receive ARGO instantly. However, you will have to forfeit 50% of your xARGO value as a penalty fee

Airdrops - Treasure Chests & Keys

Argo will be implementing a new format of airdrops to reward our community for hitting major milestones or targets – **Treasure Chests & Keys.**

As Argo embarks on her odyssey, there will be times where the crew will come across treasure chests. As active members of our crew, our fellow Argonauts will be able to gain a share of this treasure

Treasure Chests will contain xARGO tokens that will grow in amount proportional to the milestones that are set for the current event. The more milestones hit, the larger the treasure chest grows

Users who are eligible for the treasure chest event will be airdropped Keys, which give users the right to claim a proportional share of the treasure chest at the end of the event. Each event's key is unique and cannot be used for the next chest.

Illustrative example: 6-months TVL Milestone Event:

As Argo protocol TVL grows, the amount of xARGO in the treasure chest increases. At the end of the event, the value of the Treasure Chest is locked and will be claimed by Key holders. If there are 100 keys airdropped for a Treasure Chest containing 100,000 xARGO and user A owns 10 keys, user A will be able to claim 10,000 xARGO from the Treasure Chest.

If a lower milestone is hit at the end of the event, the Chest will contain a lower amount of ARGO, vice versa with a higher milestone number is met. Each treasure chest event will be accompanied with a detailed campaign post that will explain all figures and targets, including eligibility for airdrops of Keys.

09

Boosting Mechanism (MORALE)

Boosting Mechanism (MORALE) 09

Overview and Objectives

Vault APR Boosting is meant to align incentives with users who pledge xARGO and route a larger proportion of LP staking rewards to xARGO pledgers.

Users of Argo Vaults will all be earning yields from the base pool, while xARGO pledgers will earn additional boosted rewards.

Base vs Boosted Emissions

Vault APR consists of two components, base emissions and boosted emissions. Base emissions are what you would normally get from our partner protocols, whereas boosted emissions are extra rewards subsidized by Argo Protocol in the form of xARGO.

When utilising our vaults, users will be able to access boosted yields on their deposits. This will be in effect via a boosting mechanism, which utilises MORALE.

MORALE

Users can pledge xARGO to receive MORALE (MRLE). MRLE only exists within Argo Protocol and is non-tradable. These MRLE are required to determine your access to boosted yields.

MRLE is generated over time, and is capped to a maximum of 100 times your number of pledged xARGO tokens.

*E.g.: If Bob pledges 100 xARGO, he will slowly accumulate X amount of MRLE every block, with a cap of 100 xARGO * 100 = 10,000 MORALE*

MRLE does not decay. However, once you unpledge your xARGO, your MRLE is reset to 0

Gaining MORALE

MRLE is gradually accumulated in a linear manner over time up till 100 times the amount of xARGO you have pledged. MRLE is accumulated on a per block basis - but for ease of calculation, it takes approximately 6 months or 180 days of pledging to accumulate the max amount of MRLE. This roughly translates to about 0.55 MRLE a day per xARGO pledged.

A user that pledges additional xARGO along the way will then accumulate extra MRLE per day per xARGO at the above-mentioned rate.

Boosting formula

A user's total vault APR can be calculated as follows:

$$\alpha^i = \frac{(\beta^i + \gamma^i)}{v^i}$$

$$\alpha = \text{total vault APR}$$
$$\beta = \text{value of annual base emissions}$$
$$\gamma = \text{value of annual boosted emissions}$$
$$\nu = \text{value of liquidity provided to vault}$$

Base Emissions

A user's base emissions are determined via the user's liquidity provided, proportional to total liquidity provided:

$$\beta^i = \frac{\nu^i}{\sum_{n=1}^{x} \nu^n} \times \beta$$

In the above formula, x represents the total number of liquidity providers in the vault.

Boosted Emissions

A user's weight factor is first calculated with the following formula:

$$\omega^i = \sqrt{\nu^i \times MRLE^i},\ 0 \leqslant MRLE^i \leqslant (100 \times \text{xARGO pledged})$$

A user's boosted emissions are determined based on their weight factor, proportional to the weight factor of all other liquidity providers in the vault who currently have MORALE:

$$\gamma^i = \frac{\omega^i}{\sum_{n=1}^{z} \omega^n} \times \gamma$$

In the above formula, z represents the total number of liquidity providers in the vault that have MORALE.

10

Why Cronos

Why Cronos 10

Market Potential

~4b $CRO is currently locked on the crypto.org chain and are illiquid and capital inefficient. That itself presents a huge opportunity for Argo to capture and increase the capital efficiency of CRO across the board. Liquid staking brings massive value to the Crypto.com, Crypto.org, and Cronos ecosystem and will significantly increase the TVL of Cronos. We aim for bCRO to be the capital efficient version of CRO on Cronos.

Scalable and Affordable

Cronos' average gas fee is on average 0.5–1 CRO for simple transactions, while the network itself can handle more than thousands of transactions per block.

Instant Finality

Built on top of the Tendermint core, transactions happening on Cronos are thus finalized as soon as a block is created.

Tapping Into the Crypto.com Ecosystem:

Cronos gives us the possibility to access a massive retail user base within the Crypto.com ecosystem. There are many avenues to stake CRO across the Crypto.com ecosystem and we aim to be the top-of-mind protocol for CRO staking on Cronos.

11

Navigating Ahead

Navigating Ahead 11

After the Argo Mainnet launch, there are multiple new opportunities for the Argo team to capture and build the protocol towards:

- **Enhancing bCRO Utility:** Expand bCRO utility and integrate with more DeFi partners across the Cronos ecosystem.
- **New Vault Strategies:** Implement new Argo DeFi Vaults with innovative strategies aimed at maximizing CRO yields.
- **Tokenomics Enhancements:** Grow the protocol towards ve-nomics where we will implement gauges. This aligns incentives with validators and protocols to accumulate $ARGO so as to redirect CRO liquidity.
- **New Product Lines - Refraction:** Due to the composability of DeFi, we envision bCRO liquid staking to be the fundamental lego layer to the suite of products that Argo Protocol will be building out. Tokenizing the staking yields into a derivative token (bCRO) opens up a pathway for Argo to build out a refraction product to split bCRO into its yield and principal components.
- **New Product Lines - Liquidity for dApp Governance Illiquid Ve-nomics:** As more Cronos dapps start to upgrade their tokenomics to the Voting Escrow model, it provides an opportunity for Argo to build out a liquidity-as-a-service feature targeted at projects with ve-nomics to create liquidity for locked governance token.
- **Cross Chain Exposure:** As Argo scales, the protocol can provide liquid staking services on upcoming Cosmos-based blockchains, depending on the competitive landscape.

There are incredible massive opportunities for Argo to capture and we are extremely excited for the future of Argo.

Come along and join the #Argonauts ship.

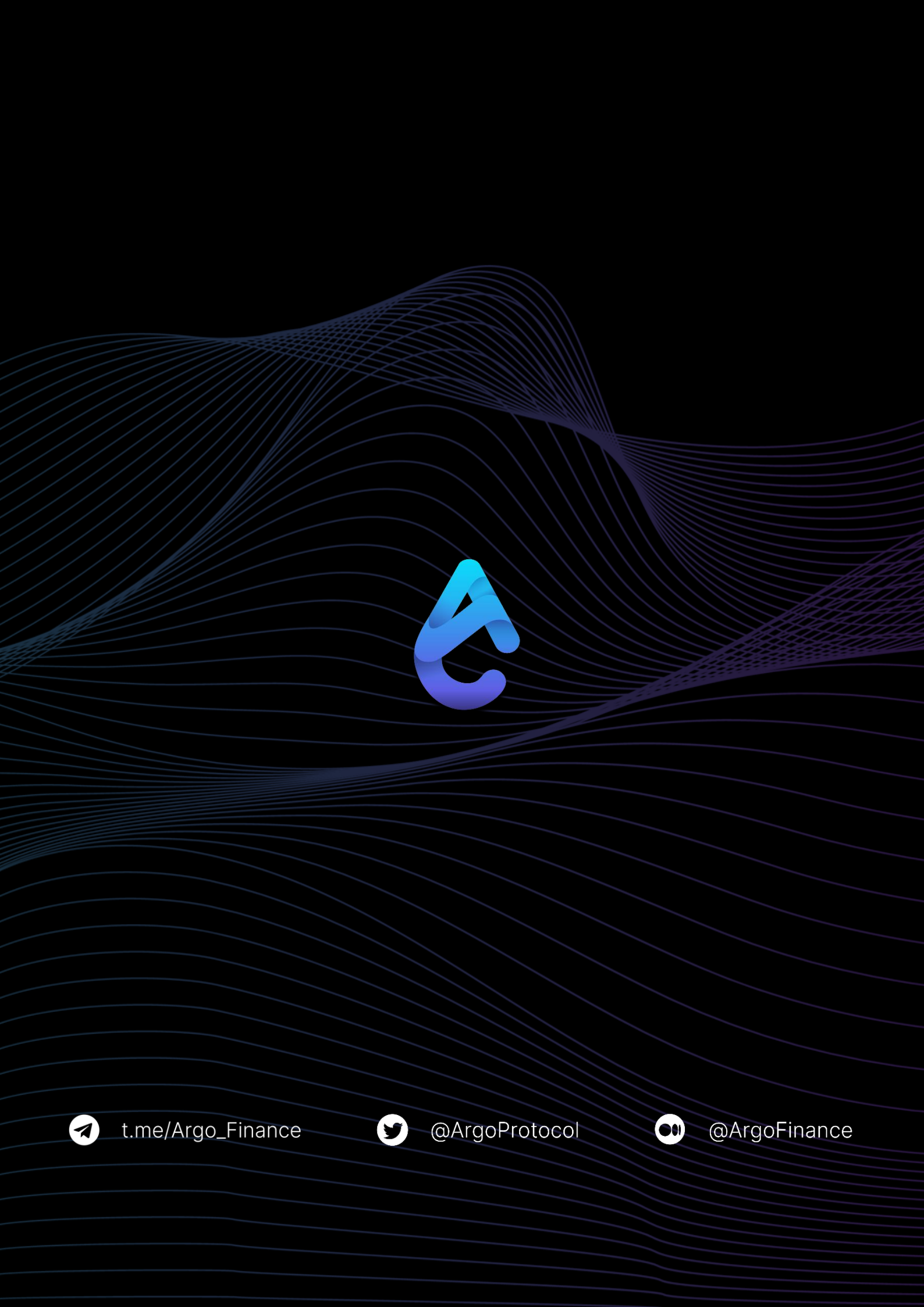
Twitter: @ArgoProtocol

Telegram: t.me/Argo_Finance

Medium: @Argofinance

Website: argofinance.money

One-click Liquid Staking, Maximize Your CRO Staking Rewards Today



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