title: [ARFC] Deploy aCRV & CRV to veCRV

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Simple Summary

This proposal presents Aave with two options for managing the CRV holding, with@Llamaxyz recommending to lock the CRV for veCRV via Curve Finance.

Abstract

Aave currently holds approximately 637k CRV across Ethereum and Polygon networks. Llama has been looking at potential sources for CRV yield and governance influence. This proposal presents one high yield and one governance focused strategy for consideration:

Option 1) Locking CRV on Curve for veCRV

Option 2) Staking CRV on Yearn for st-yCRV

Option 1) includes locking CRV, participating in Curve Finance governance, and voting to direct incentives to pools of Aave's choosing. veCRV could be used to boost adoption of GHO, yield on staked aToken reserves, and yield on Protocol Owned Liquidity, to name a few potential use cases.

Option 2) focuses on yield, forgoes governance influence (participating in votes), and presents a higher-yielding investment strategy that, over time, will lead to Aave own more CRV relative to Option 1).

To vote NAE is to deposit CRV in Aave v3 on the network it was earned. This represents the "do nothing" approach.

A Snapshot vote presenting the two options will determine how Aave will proceed. Each option has varying degrees of complexity to implement, with Option 1) being the most difficult in a decentralized way, but more closely aligned with Aave's GHO and staked aToken direction.

Motivation

Aave currently holds 639k of CRV across Ethereum and Polygon networks. The vast majority, 613.5k, was earned as interest in the form of aCRV. 19.7k was received from the excess debt swap contract. 5.8k is also held on Polygon RFs.

To support Aave in choosing how best to manage the CRV holding, Llama presents two high-level strategies to choose between.

Option 1) Lock CRV for veCRV via Curve Finance

veCRV

The Curve Finance emission schedule is an automated program governing the minting and distribution of all CRV tokens via on-chain voting by veCRV holders. The longer the CRV is locked for, the more veCRV and voting power is obtained.

veCRV are not transferable and have a decay on the veToken's balances, which means that the voting power decreases over time if the position is not max-locked. To maintain the maximum benefits, the veCRV holder needs to recommit to the 4 year lock. (1 CRV locked 4 years = 1 veCRV, locked 1 year = 0.25 veCRV etc)

- Gauge-weight Influence

Voting to influence how CRV emissions are distributed across different liquidity pools. The votes happen every week on-chain. Voting rights can not be delegated.

- Governance Influence

Voting on governance proposals. These proposals require an on-chain vote. Voting rights can not be delegated.

- veBoost

Locking CRV earns a boost of up to 2.5x the rewards for providing liquidity up to a certain limit on Curve Finance.

- Protocol Fees

50% of all trading fees are sold for 3CRV (stable) and distributed to CRV lockers.

veCRV Yield

Depending upon how Aave seeks to manage the veCRV holdings, there are several ways to earn yield that offer varying levels of return. The below outlines the key revenue source derived from veCRV's utility.

- Protocol Fees

3CRV fees depends on the trading volume (Swap fee: 0.67% APR)

- veBoost

This can be utilized if Aave decides to deploy funds into Curve Pools and stake the receipt token within Curve Finance's gauges. Boosting enables 2.5x the returns to be earned (up to a certain deposit size) and then reduces with additional deposits. Aave can opt to sell all or a portion of veBoost.

An alternative use case is for Aave to sell the boost into a secondary market. At the time of writing, the lowest price on veCRV boost on Warden is currently 0.00001 CRV/veCRV/week, or effectively 0.05% APR.

- Bribes

This involves Aave selling the gauge voting influence. The yield derived from this strategy varies greatly over time and requires continual updating for optimal returns. Last week, the average cost was ~$0.0042/veCRV vote/week. This is effectively 19.7% APR. Aave can opt to sell all of the gauge influence or a portion of its veCRV for rewards.

Aave will always retain the Protocol Fee revenue stream as the veCRV holding is non-transferrable. Aave can utilize the veBoost and Gauge influence to boost the returns on its own liquidity positions, or sell all or a portion of it into secondary markets.

The primary advantage of veCRV is being able to optimize the yield while controlling the voting power, and other underlying benefits without restriction.

veCRV Strategy

This strategy focuses on utilizing the governance influence of veCRV to Aave's benefit. How the veCRV position is to be managed is fluid and subject to a future forum publication and discussion. At a high level, there is the ability to use the Collector Contract or multisig, depending if the community intends to optimize for yield or having control by governance.

All available aCRV on mainnet is to be redeemed and all CRV, (633k at time of writing) shall be deposited into Curve Finance's vote-escrowed contract for four years and periodically relocked to retain the maximum voting power. All future earned/acquired CRV will periodically be added to the vote-escrowed contract until governance decides otherwise.

Aave will then able to use the veCRV with the main benefits mentioned below:

- Participate in gauge votes
- Participate in Curve Finance governance votes
- Receive Boost on Liquidity Positions
- Earn Curve Finance protocol fees

veCRV Position Overview

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Locking all CRV for the maximum duration, Aave would receive ~633k veCRV representing 0.12% of veCRV voting supply. With a CRV emission schedule of 3,727M per week, Aave would influence the distribution of ~4,355 CRV/week, or $4,620/week. ($240,300/year with CRV priced at $1.06). This will reduce in line with CRV's emission schedule, which is to be revised lower from 3.727M to 3,142M CRV/week in mid-August 2023.

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There are several strategies that can be explored. Some, but not all, are shown below:

- Stake a liquidity position in Curve's gauges and boost rewards (up to x2.5)
- Stake a liquidity position and offer rewards for veBoost + gauge influence to amplify returns
- Potential for combined GHO launch and Treasury Management strategy
- Potential for combined GHO launch and Treasury Management strategy
- Actively participate in veBoost and gauge voting influence secondary markets
- Generating $2,100/week on average at the time of writing
- Generating $2,100/week on average at the time of writing
- Help sustain the Safety Module yield
- Future proposal being developed
- Future proposal being developed

The boost amount received depends on the value of the funds deposited and the relative sizing of the veCRV holding. Boost can be used directly on the Collector Contract, but considering the amounts of available funds, the boost is unlikely to be sufficient to boost all of Aave's positions in Curve Liquidity Pools. Therefore, it is likely any treasury strategies will be a mix of both depositing into Curve gauges directly or via Convex Finance.

The strategy/direction Aave chooses will be determined by Snapshot votes. In addition, separate to the above, potential GHO launch strategies could include renting additional veCRV voting influence and veBoost from other veCRV holders. Aave having a core veCRV holding of its own would form the foundation of such a strategy.

If Aave elects to proceed with this option, then Llama will publish another forum post outlining options for how the governance and gauge vote participation could be administered.

Option 2) Staking CRV on Yearn for st-yCRV

Option 2) maximizes revenue generation but forgoes the ability to actively participate in Curve Finance governance. The current yield on this strategy is currently 39.29% and is likely to reduce by ~5.72% if the mega boost is removed. The st-yCRV holding would be held in the Ethereum Collector Contract.

This strategy involves depositing CRV into Yearn Finance's yCRV and then staking for st-yCRV. st-yCRV accrues CRV by optimizing for yield and compounding returns over time.

An overview of the strategy is shown below:

- Current st-yCRV APR: 39.29%
- 4.98% Curve Admin Fees
- 28.59% gauge voting bribes
- 5.72% mega boost
- 4.98% Curve Admin Fees
- 28.59% gauge voting bribes
- 5.72% mega boost
- Aave can unstake and swap yCRV at any time
- 1.95x boost on Curve Admin Fees (4.98% APR)
- st-yCRV gauge weight power is utilized to maximize bribes
- Yearn Finance earns a 10% performance fee

st-yCRV is staked yCRV and is designed by Yearn Finance to be a ‘set and forget’ yield optimized position for yCRV users. There are two primary yield sources:

- Admin Fees

Every week,veCRV holders earn weekly “admin fees” from Curve Protocol. Staked yCRV is where 100% of admin fees earned by Yearn’s veCRV positions are sent and auto-compounded into more yCRV.

- Bribes

For all the yCRV within st-yCRV, 1 veCRV worth of vote influence will be used to vote in favour of the Curve gauge which optimizes bribe revenue for st-yCRV holders. Bribes collected from these votes are allocated as supplemental yield to st-yCRV holders.

st-yCRV uses a Yearn v2 vault to perform the auto compounding strategy that sells 3CRV and some claimed bribes into yCRV.

With 633k CRV, Aave could own ~633k yCRV, which can be staked for 563k st-yCRV, representing approximately 2.61% of the st-yCRV supply, [7].

By deploying CRV into the yCRV vault and staking, Aave is electing to pursue a maximum yield strategy that will accelerate the rate at which CRV is earned relative to holding aCRV. If the intent is to maximize the veCRV holding for a particular date in the future, then this strategy is preferred relative to Option 2). However, there is a dependency of there being sufficient liquidity to swap yCRV to CRV when unwinding this position. If liquidity is thin, then unwinding may become a lengthy process or Aave may incur noticeable price impact when exchanging yCRV for CRV.

There are several risks with y-stCRV detailed below:

- Dependency upon yCRV DEX liquidity for swapping yCRV to CRV when exiting the position
- The MegaBoost provided by Yearn Finance, 1M yCRV to boost the yield (30k yCRV Weekly) 5.72% APR will likely be removed at some time in the future causing the APR to fall
- Migration of yveCRV/yvboost

Depositing yCRV into the lp-yCRV pool was considered, however, this is more complex to execute and maintain for marginal additional yield. The trade-off between complexity and additional yield favors the simpler implementation of st-yCRV.

NAE - aCRV on v3 Liquidity Pools

To vote NAE involves Aave holding all CRV positions in the form of aCRV.

All CRV is to be migrated/deposited into Aave v3 on the respective network and held as aCRV. In order to achieve this, CRV must first be listed on Aave v3 Ethereum. The only smart contract exposure is the Aave protocol and this strategy best represents the “do nothing” approach versus either optimizing for governance influence with yield, Option 1), or outright CRV yield, Option 2).

Comments

To help with the decision making, the table below presents some pros and cons of each approach.

veCRV has an immediate impact on the Aave ecosystem whilst st-yCRV is a longer term, higher return strategy that compounds over time.

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Llama suggests Option 1) to focus on accumulating active voting power and enabling Aave to determine how to manage the position.

We are particularly interested in creating an Aave aToken liquidity pool and explore what can be done to support GHO and staked aTokens when more details emerge around those upgrades. In our opinion, Option 2) has several significant unknowns which can impact the success of the strategy.

Implementation

Depending upon the outcome of the Snapshot, Llama will perform either of the following after the Snapshot has been performed:

Option 1) Lock CRV for veCRV via Curve Finance

Step 1)

Llama will prepare a governance forum publication presenting options for how Aave will manage the veCRV holding. Based upon this discussion, the address which will hold veCRV will be determined. This proposal will also determine what functions are added to the Collector Contract and/or permissions are granted to a multisig to administer.

Step 2)

On Aave's behalf, Llama shall seek permission to deposit CRV via a smart contract into Curve Finance's voter escrow contract. This is to be performed via Curve Finances governance process and will involve Curve Finance approving adding the Ethereum Address determined by Aave to the voter-escrow whitelist.

Step 3)

Upon Curve Finance whitelisting the Aave address, a new proposal will be submitted which summarizes redeeming, transferring and deploying the CRV to veCRV. This proposal will detail all the implementation details decided upon in Step 1) and will determine how Aave will manage the position. At this point, Aave will have a veCRV holding and a philosophy for managing the holding. This proposal will detail how Aave's aCRV revenue streams, across various networks, are to be converted to veCRV over time.

Llama expects to share an Ethereum Treasury strategy for discussion in the coming weeks. This will likely include an allocation to Curve Finance liquidity pools and potentially include the creation of a new Aave v3 aToken pool. Deploying capital to earn yield and be managed by the address holding the veCRV position comes after alignment on how to manage the position and creation of the vCRV holding.

Option 2) Staking CRV on Yearn for st-yCRV

Step 1)

All aCRV would be redeemed for CRV, then all CRV would be deposited into the yCRV vault and staked for st-yCRV. The st-yCRV will be held within the Ethereum Collector Contract.

Step 2)

This proposal will detail how Aave's aCRV revenue streams, across various networks, are to be converted to st-yCRV over time.

Aave reserves the ability to pivot from either strategy's direction at a later point in time.

Next Steps

This forum post will remain in the discussion phase until the 19th February when a Snapshot will be created, with voting commencing on the 20th February.

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