Hydro Finance: Evolving the AMM Model Past Pre-Money Speculation with Sustainable Incentives and Independent Liquidity

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Abstract

Hydro Finance is a hybrid Automated Market Maker (AMM) and Decentralized Autonomous Organization (DAO) built on Secret Network. Hydro Finance incorporates slippage-free 1:1 trades alongside the traditional AMM model to leverage staking derivatives as base pairs. The use of staking derivatives as primary liquidity enables staking rewards to be treated as revenue for the Hydro DAO. This revenue is then dispersed as Protocol-Owned Liquidity, dividends, and codified buy-pressure for the DRO token, which is essential for the endurance of attractive yield and provides an eventuality of independence from reliance on external liquidity provision. The slippage-free pools allow for easy conversion from the derivative to the native assets, as well as cheap and privacy preserving multi-chain stable swaps.

1 Motivation

"Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model."[1]

Automated Market Makers (AMMs) give control of digital asset management back to the people.[2] Free trade and easy access are integral parts of web3, which allow for the ownership and digital transfer of data and assets. The freedom and decentralization promised by cryptocurrency technology would be irreparably stunted if forced to abide by the demands of corporate gateways and centralized exchanges.

[1]Nakamoto, Satoshi. "Bitcoin: A Peer-to-Peer Electronic Cash System." Bitcoin.org, 2008. https://bitcoin.org/bitcoin.pdf

[2]Zhang, Yi, Xiaohong Chen, and Daejun Park. "Formal specification of constant product (xy= k) market maker model and implementation." White paper (2018). https://github.com/runtimeverification/verified-smart-contracts/blob/uniswap/uniswap/x-y-k.pdf

Up until this point, AMMs have relied solely upon speculation to derive their value. They offer an integral service but don't adequately capture the value they provide through their token. The valuations for AMM governance tokens are arbitrarily based on Total Value Locked (TVL) and volume, but rarely do the tokens offer substantially more than governance power and theoretical value based on potential fees extracted from the very users themselves. High valuations are required to sustain the high Annual Percentage Rates (APR) which are needed in order to retain liquidity providers, the mercenary capital on which they depend. In the case of a black swan event, these protocols will almost certainly be damaged beyond repair, unable to provide strong enough incentives to retain or incentivize user capital. The current models simply do not provide a transition from pre-revenue speculation to post-money sustainability.[3]

In 2019, Gartner positioned blockchain technology in the 'trough of disillusionment' category in their well-respected Hype Cycle for Emerging Technologies. This is a clear indicator of decreased investor interest as experiments and implementations fail to deliver. These failed experiments were stepping stones towards an eventuality promised by Decentralized Finance (DeFi).

> We are witnessing many developments in blockchain technology that will change the current pattern. By 2023, blockchain platforms will be scalable, interoperable, and will support smart contract portability and cross chain functionality. They will also support trusted private transactions with the data confidentiality required. All together, these technology advances will take us much closer to mainstream blockchain and the decentralized web, also known as Web 3.0 [4]

In 2021, Avivah Litan, distinguished analyst and research vice president at Gartner stated, "Decentralized finance (DeFi) applications offer substantially greater financial rewards than traditional finance. Centralized firms like hedge funds already take advantage of this." and went on to elaborate, "We project that by 2023, 35% of enterprise blockchain applications will integrate with decentralized applications and services. The rewards are simply too high to ignore, and are far greater than the costs."[5]

With enterprises already aware and starting to take advantage of the promises of decentralized finance, it is more crucial than ever to provide sustainable, interoperable, high yield, low risk options that protect the privacy of users while not losing sight of regulatory compliance.

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[3]Callow, Dana A, and Michael Larsen. "Understanding Valuation: A Venture Investor's Perspective." Millennia Partners. Boston Millennia Partners, 2003.
http://www.millenniapartners.com/_documents/whitepaper/whitepaperattachment6.pdf

[4]Gartner, Meghan, and Laurence Gartner. "Gartner 2019 Hype Cycle Shows Most Blockchain Technologies Are Still Five to 10 Years Away from Transformational Impact." Gartner Newsroom Press Releases. Gartner Inc, October 8, 2019.
https://www.gartner.com/en/newsroom/press-releases/2019-10-08-gartner-2019-hype-cycle-shows-most-blockchain-technologies-are-still-five-to-10-years-away-from-transformational-impact

[5]Litan, Avivah. "Hype Cycle for Blockchain 2021; More Action than Hype." Gartner Blog. Gartner Inc, July 14, 2021. https://blogs.gartner.com/avivah-litan/2021/07/14/hype-cycle-for-blockchain-2021-more-action-than-hype/

2 Hydro Finance

Hydro Finance is a novel adaptation of previous AMM models aligned to create sustainable token economics and designed to generate and capture continual value. Hydro is built on Secret Network, a privacy preserving smart contract platform built on Cosmos SDK.[6] SCRT (the native governance token of Secret Network) and most other tokens in the Cosmos ecosystem run on a Delegated Proof of Stake (DPoS) inflationary model. By utilizing the SNIP-20 standard to create these staking derivative solutions for various supported inflationary tokens, the liquidity provided on Hydro.Finance exists in tokenized representations of staked assets that are earning interest and securing the various Layer-1 networks in the Cosmos ecosystem.[7] By capturing that interest directly, the DAO will generate steady revenue from the liquidity that is hosted, which will in turn be deployed as Protocol-Owned Liquidity (or POL), dispersed to DRO stakers, and used to purchase the DRO token. POL and dividends create measurable value for the DRO token, which is given as rewards to liquidity providers. Increased value of the DRO token should incentivize mercenary capital to provide liquidity, which will again increase the revenue. As more POL is generated, we become less dependent on said mercenary capital until it is no longer necessary entirely and the protocol has achieved complete sustainability.

By being invested in the supported assets it aims to serve, the DRO DAO will be more connected to its user-base, and further incentivized to facilitate the success of those assets and the entire Cosmos ecosystem. In addition to economic sustainability, use of staking derivatives allows the Hydro DAO to have governance power in the Layer-1 networks it supports, providing a vector for privacy preserving voting in the governance of all Layer-1 chains supported through the DAO.

The core principles of Hydro Finance are:

- Create a Catalyst for Liquidity on Secret Network
- Facilitate the Growth of the Cosmos Ecosystem
- Protect User Privacy & Security
- Ensure Regulatory Compliance
- Create Sustainable Value
- Capture Value Sustainably

[6] Kwon, Jae, and Ethan Buchman. "Cosmos Whitepaper: A Network of Distributed Ledgers." Cosmos Network. Tendermint Inc., January 30, 2019. https://v1.cosmos.network/resources/whitepaper

[7] Morami, Assaf, Reuven Podmazo, and Itzik Grossman. "Secretfoundation/Snips: Secret Network Improvement Proposals (SNIPs) ." GitHub. Secret Foundation, September 2020. https://github.com/secretfoundation/snips

3 Hydro Pools

Hydro will have two types of AMM pools: Hydro and Oxy. Hydro pools will offer the typical x*y=k market maker mechanism.[8] Pairs on Hydro pools will be SNIP-20s based on Layer-1 staking derivatives, Layer-2 tokens built on Secret Network, and bridged assets from external ecosystems. All of the fees (0.20% of trade volume) from the Hydro pools go to buyback and burn the DRO token.

4 Oxy Pools

Oxy pools offer consistent swaps at a 1:1 ratio between 2+ assets with scaling fees instead of slippage. Having exponential fees prevents any one side of the pool from being fully depleted while enabling cheaper and easier conversions that utilize more of the liquidity than the x*y=k model allows. All fees collected in the Oxy pools, both from trades and withdrawals, will remain in the Oxy pools as Protocol-Owned Liquidity.

The formula for the trade fees is calculated as:

$$T = 0.03\% + 0.025\% * \left(\frac{\left(\frac{S}{N-1} \right)}{E} \right)^3$$

where

T is the Oxy trade fee

S is the ending pool percent of sold token

E is the ending pool percent of other tokens

N is the number of different tokens in the Oxy Pool

Example: Alice wants to trade 100 shSCRT for SCRT. The SCRT Oxy Pool has 10,000 SCRT and 5,000 shSCRT.

$$S = 5,100 \qquad E = 9,900 \qquad N = 2$$

$$T = 0.03\% + 0.025\% * \left(\frac{\left(\frac{5100}{2-1} \right)}{9900} \right)^3 \approx 0.033\%$$

$$0.033\% * 100 \text{ SCRT} = 0.033 \text{ SCRT in fees}$$

[8] Pourpouneh, Mohsen, Kurt Nielsen, and Omri Ross. "Automated Market Makers." IFRO Working Paper, No. 2020/08. University of Copenhagen, Department of Food and Resource Economics (IFRO), Copenhagen, July 2020. https://www.econstor.eu/bitstream/10419/222424/1/IFRO_WP_2020_08.pdf

A template for example fees in a 2-token pool for balancing and unbalancing the pools is as follows:

Pool Breakdown	Balancing	Unbalancing
50/50	0.055%	0.055%
45/55	0.044%	0.076%
40/60	0.037%	0.114%
35/65	0.034%	0.190%
30/70	0.032%	0.348%
25/75	0.031%	0.705%
20/80	0.030%	1.630%
15/85	0.030%	4.579%
10/90	0.030%	18.260%
5.93/94.07	0.030%	100%

In order for the Oxy pools to be sustainable they must avoid depletion and remain relatively balanced as often as possible. One added balancing incentive is HYDR8, a primitive which pays traders in accordance with their trading volume. The combination of adding HYDR8 and keeping fees incredibly low for balancing the pools creates unique profit opportunities and permanently incentivizes the balancing of these pools. If the user base fails to balance these pools sufficiently, this process could be automated indefinitely through the deployment of simple arbitrage bots. Bad actors could theoretically slow down a pool or make it temporarily out of balance, but it would be expensive for them to do so, making it economically inviable. Additionally, the price they'd pay in fees would remain in the pool as POL, which is revenue for the DAO and replenishes the very liquidity the bad actor would be trying to deplete.

In addition to the trade fees, two conditional withdrawal fees must exist. Liquidity provision in the Oxy pools is single-sided but grants providers partial ownership of the whole liquidity, not any specific side. In order to prevent users from depositing liquidity and withdrawing on another side as a means of avoiding the trade fee, there will be a 10-day soft-lockup period. Unbonding liquidity can be done in any side of the pool, but removing it will have a fee of:

$$\max(\ 0\ ,\ 1\% - 0.1\% * D\ )$$

where

D is the number of days

This means that users can have access to their funds immediately, if necessary, or can wait 10 days to withdraw their funds for free. It also means that users can perform fee-less swaps through these pools by depositing and withdrawing liquidity, but they would take 10 days to perform.

The other conditional withdrawal fee is exponential and meant to protect the pool from depletion in the same manner as the scaling trade fees. The formula is as follows:

$$C = 0.023\% * \left(\frac{\left(\frac{T}{N-1}\right)}{W} \right)^3 \iff C \geq 0.25\%$$

where

C is the conditional unbalancing fee

T is the ending pool percent of other tokens

N is the number of different tokens in the Oxy Pool

W is the ending pool percent of withdrawn token

Example: Alice wants to emergency withdraw 10k USDC from the Oxy Stable Pool. The pool is broken down as shown:

sUSDC	2,000,000
sUSDC(bsc)	4,000,000
sUST	7,000,000
sUSDT	6,000,000
sBUSD	4,000,000

The Conditional Unbalancing Fee is calculated first:

$$W = \frac{1,990,000}{22,990,000} = 0.08656$$

$$T = \frac{21,000,000}{22,990,000} = 0.91344$$

$$N = 5$$

$$C = 0.023\% * \left(\frac{\left(\frac{0.91344}{5-1}\right)}{0.08656} \right)^3 \iff C \geq 0.25\%$$

$$0.4223\% \geq 0.25\% \ = \text{TRUE}$$

$$0.4223\% * 10,000 \text{ sUSDC} = 42.23 \text{ sUSDC in fees}$$

Emergency Withdrawal means D = 0:

$$1\% - 0.1\% * D = 1\%$$

The Emergency Withdrawal Fee will then only be in relation to the remaining 99.5777% of the original requested withdrawal.

$$\text{Emergency Withdrawal} = 9,957.77 \text{ sUSDC} * 1\% \approx 99.58 \text{ sUSDC}$$

The combined Withdrawal fee for this example would be:

$$42.23 \text{ sUSDC} + 99.58 \text{ sUSDC} = 141.81 \text{ sUSDC, or } 1.4181\%$$

A template for conditional unbalancing fees for a 2-token pool is as follows:

Pool Breakdown	Balancing	Unbalancing
50/50	0%	0%
45/55	0%	0%
40/60	0%	0%
35/65	0%	0%
30/70	0%	0.292%
25/75	0%	0.621%
20/80	0%	1.472%
15/85	0%	4.185%
10/90	0%	16.767%
5.93/94.07	0%	100%

These fees allow users to pull out funds whenever they want, in whatever denomination they prefer, but disincentivizes harm to the protocol. No user must experience withdrawal fees if they wait 10 days and withdraw the tokens in accordance with the needs of the pool.

100% of fees in Oxy pools will remain in the pool as POL.

5 HYDR8: Volume Incentivization

HYDR8 is a reward token given to traders in correlation with their trading volume. Designed as a subsidy to lessen the burden of trade fees and reward traders in addition to liquidity providers with DRO's inflation, HYDR8 plays an integral part in ensuring the longevity of the Oxy pools. Balancing the Oxy pools has trade fees as low as 0.03%, which will be lower than the HYDR8 rewards, making trading that directly benefits the usability and sustainability of those pools profitable for the users.

The HYDR8 contract will receive adjustable DRO allocation directly from inflation. HYDR8 tokens will be minted upon each trade and are always redeemable for their proportion of total DRO held in the HYDR8 contract. The HYDR8 is burned (removed from total supply) upon DRO redemption.

The HYDR8 Claim ratio is as follows:

$$\text{HYDR8} = \frac{\text{Accumulated DRO Tokens}}{\text{Total HYDR8 Supply}}$$

To properly understand the Hydro Finance trade fees as experienced by the user, the HYDR8 Protocol must be factored in.

$$\text{Net Trade Fee } = \text{Trade Fee} - \text{HYDR8}$$

Let's revisit Alice's Oxy Trade where she traded 100 shSCRT for 100 SCRT which resulted in a trade fee of 0.033%, or 0.033 SCRT.

Let us suggest for this example:

- There are 50,000 DRO currently in the HYDR8 contract
- There are 10,000,000 HYDR8 in the current total supply
- HYDR8 is minted at a rate of 1 HYDR8 per $1 of trade volume

Alice's trade would've minted a number of HYDR8 tokens equal to:

$$H = 100P$$

where

H is the HYDR8 minted

P is the price of SCRT

If SCRT is valued at $20, then Alice's trade had a volume of $2,000, her trade fee was $0.66, and 2,000 HYDR8 will be minted and given to her. The updated total supply of HYDR8 after this trade is 10,002,000, but the number of DRO in the contract hasn't changed (though in reality it's added to every block). If Alice redeems her DRO at this time, she'll receive:

$$2,000 * \left(\frac{50,000}{10,002,000}\right) = 9.998 \text{ DRO}$$

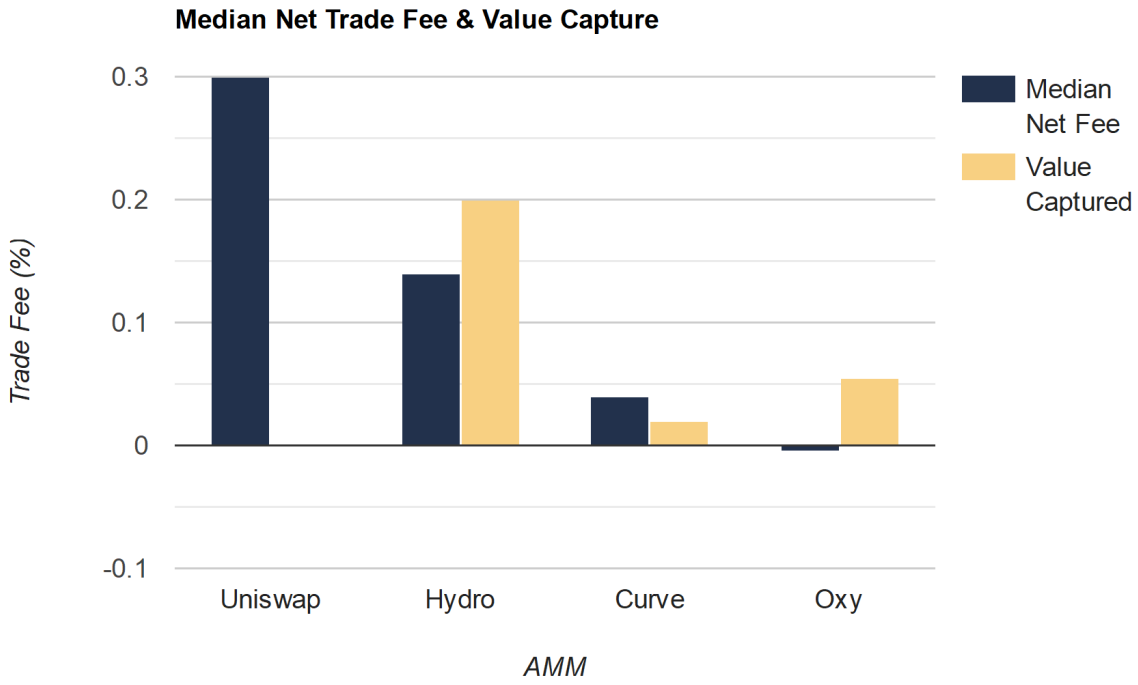
The HYDR8 traded in will be burned from the supply, lowering the supply back to 10,000,000 HYDR8. The available DRO in the contract will lower from 50,000 to 49,990.002. Whether or not Alice fully recuperated her trade fees is dependent on the price of DRO.

In order to properly incentivize balancing the pools, it's imperative that HYDR8 maintains a redemption level above 0.03% of trade volume. Should it be above 0.06% of trade volume, it can be gamed by wash trading across balanced Oxy pools until it is lowered to approximately 0.06%. While we do not control the price of the DRO token, nor the volume traded, the weight of the percentage of inflation directed towards the HYDR8 contracted can be adjusted if need-be to ensure the success and longevity of the protocol.

Assuming 0.06% of trade volume is recuperated by HYDR8, in Alice's trade DRO would have a price of \$0.12, and she would've received \$1.20 worth of DRO when she redeemed her HYDR8. Her net trade fee would be:

$$\text{Net Trade Fee } = \$0.66 - \$1.20 = -\$0.54$$

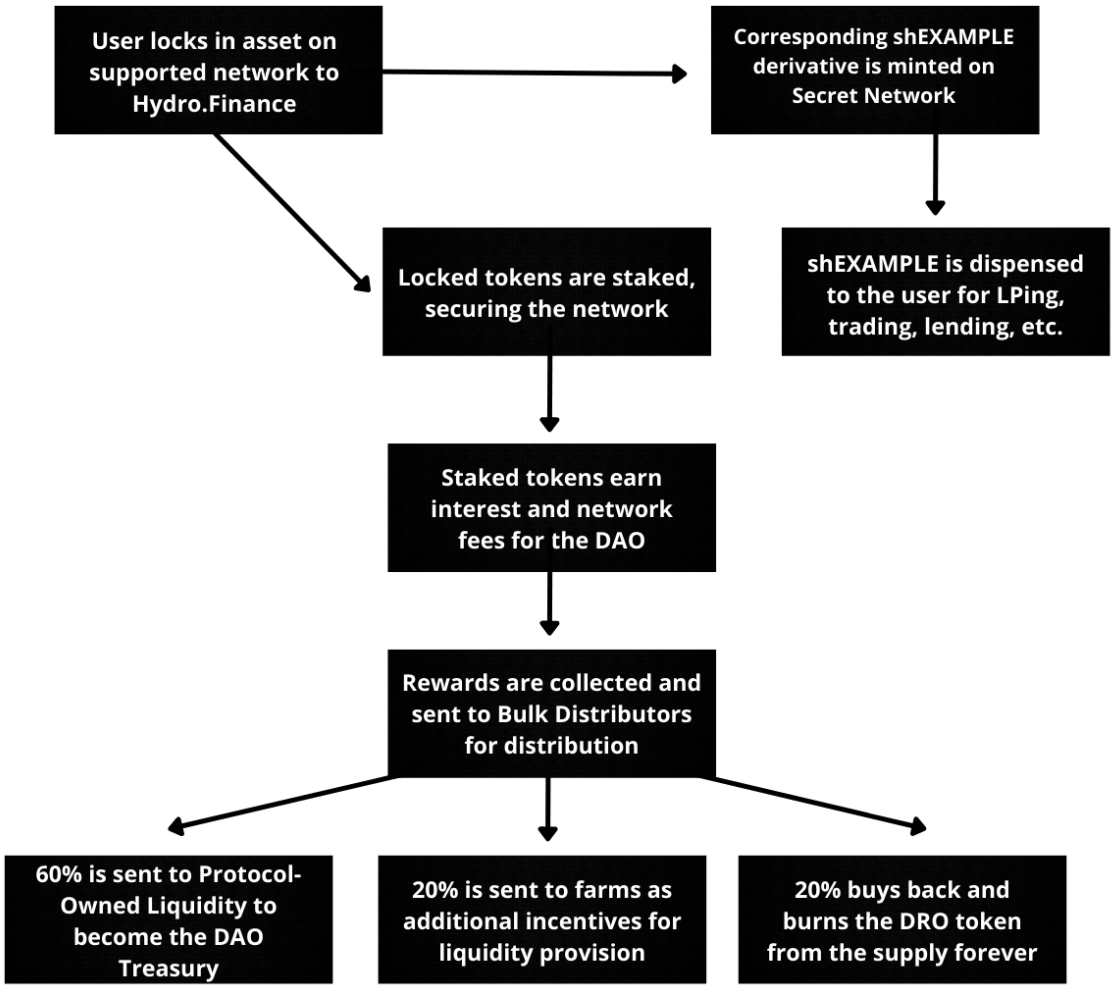
The negative trade fee means that Alice profited from her 1:1 slippage-free trade. As illustrated in the example Oxy and Hydro will both offer lower net trading fees than current market standards.



By incorporating external revenue and generating Protocol-Owned Liquidity, we are not dependent upon trade fees for long-term liquidity provider retention and can sustainably capture the value from the fees directly. Through the use of HYDR8, the protocol will capture more from user fees than the users themselves will ever experience, and the Oxy pools can indefinitely be profitably balanced.

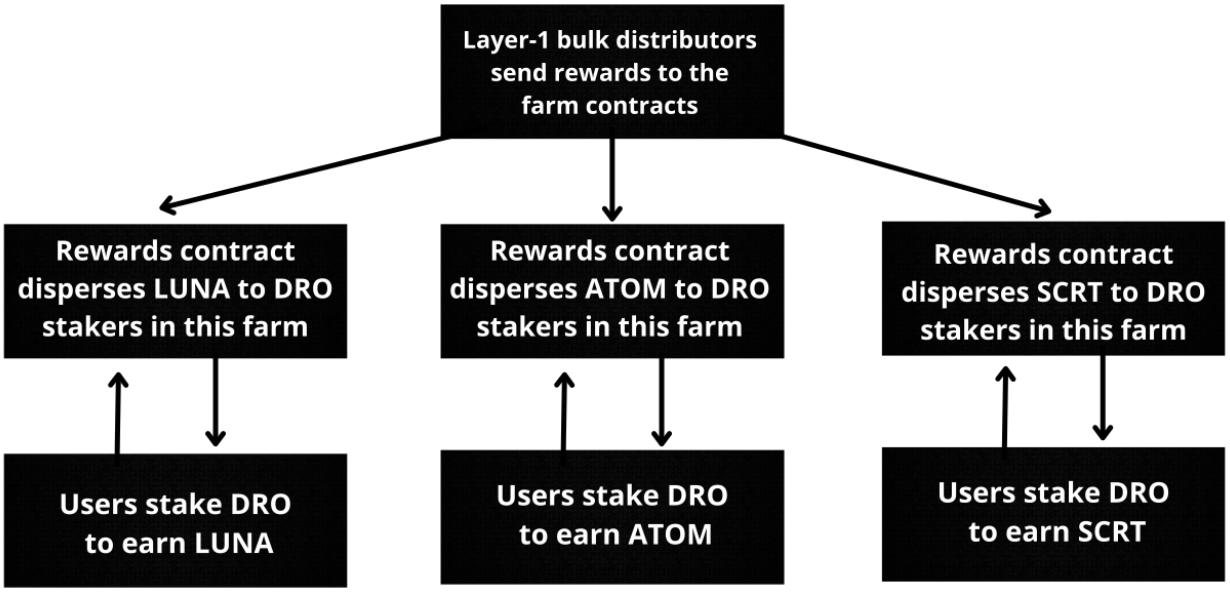
6 Secret Hydro Derivatives: External Revenue & Front-Running Resistance

Secret Hydro Derivatives are SNIP-20 representations of staked assets on the various supported Cosmos Layer-1 blockchains. These tokens can only be minted by sending the L-1 tokens (such as ATOM, LUNA, and SCRT) to the Hydro address on that network. These tokens are then staked, securing the network, and earning staking rewards from inflation and network fees for the Hydro DAO. Rewards will be collected regularly and sent to bulk distributors. The Bulk Distributors will deploy the rewards as follows:



The Protocol-Owned Liquidity will be deployed to the native asset side of the Oxy pool. This will allow for sustainable liquidity by which to liquidate the Secret Hydro Derivatives without needing to wait through an unbonding period.

The Farm is a contract which distributes rewards to DRO stakers. Each supported Secret Hydro Derivative will have an accompanying farm in which users can stake their DRO to earn the corresponding Layer-1 token.



The Buyback/Burn provides sustainable and measurable codified buy-pressure for the DRO token. The price of DRO directly correlates to the APRs offered to liquidity providers. Revenue is derived from the liquidity provided. Therefore, direct buy-side pressure for DRO incentivizes mercenary capital to contribute to liquidity provision in the short-term, which generates revenue that will be used to sustain Hydro Finance in the long term.

The Secret Hydro Derivatives are SNIP-20 tokens which inherit all of the privacy preserving qualities provided by the nature of smart contracts on Secret Network. Hydro Finance is also front-running resistant. Front-running is a primary method of miner extractable value, which is expanded upon by the Bank for International Settlements:

> Certain features of AMMs expose liquidity-takers to market manipulation on DEXs. The execution of trades in AMMs requires validations based on the blockchain's consensus protocol, i.e. buy and sell orders are stored in a public memory pool, so that validators (also known as "miners") can add them to the blockchain. When submitting orders, liquidity-takers are uncertain about the timing of their orders' execution and the execution prices, as these depend on the execution sequence. Importantly, the order quantities become public knowledge before their price impact has materialized – which is easily predictable from the bonding curve. This time lag opens the door to malicious activity, whereby a trader may try to place a buy and an offsetting sell order immediately before and

after, respectively, the pre-announced buy order. When the latter order is large enough, the bonding curve implies that the malicious trader's sell order will be executed at a higher price than his buy order, thus generating a profit. Such front-running behavior is particularly attractive to large validators because they have a higher chance to "win" the next block and time their front-running trades optimally. The profits sometimes are called "miner extractable value".[9]

Since actions that take place inside a Secret contract aren't viewable and remain encrypted within the mempool, the actions transpiring in a trade aren't knowable, and therefore can't be front run. Furthermore, this means that users can trade directly from non-SNIP-20 assets to other non-SNIP-20 assets directly on Hydro Finance, while being protected from front-running! When trading two non-SNIP tokens directly, such as SCRT for ATOM, the routing would be:

$$SCRT > shSCRT > shATOM > ATOM$$

Here, the first and last pools are Oxy pools, and the middle is a Hydro pool. The user is making a 3-jump trade, directly interacting only with the non-SNIP assets. However, they gain security through the utility of the Secret Hydro Derivatives while paying only 0.31% (on average) in fees and earning much if not most of that back through HYDR8.

7 DRO DAO: Money & Power in the Cosmos

DRO will serve as the governance token for the Hydro Finance DAO. The DAO's governance system uniquely leverages the privacy preserving nature of Secret Network's smart contracts in a way that allows for provably accurate voting, in which each user's vote is private. Stakers in the 'Infinity Pool' (the farm that earns more DRO and other voluntarily contributed tokens from listing partners) get to participate in this governance. Users have 7-days to cast their vote and votes are tallied in accordance with the amount of DRO tokens staked at the end of the 7-day period.

Secret Hydro Derivatives create the opportunity for the Hydro DAO to own governance power in the various Cosmos Layer-1 tokens that are supported. There will be subsections of the Hydro governance model that allow DRO stakers to utilize the private voting feature to direct the DAO's vote on the various native chains. These votes will have a shorter time period.

[9] Aramonte, Sirio, Wenqian Huang, and Andreas Schrimpf. "Trading in the DEFI Era: Automated Market- Maker." The Bank for International Settlements, December 6, 2021. https://www.bis.org/publ/qtrpdf/r_qt2112v.htm

There are 3 types of proposals that can be governed by the DAO:

1. Spend Proposals

    (a) The DAO owns all Protocol-Owned Liquidity and can spend it to fund various initiatives according to the will of the community.

    (b) The DAO can also add its POL to Hydro Pools via governance.

        i. $1 Million worth of shSCRT and $1Million worth of shATOM can be added to the shSCRT <> shATOM Hydro Pool to raise liquidity in said pool by $2 Million, while potentially further balancing the Oxy Pools for said tokens.

2. Layer-1 Proposals

    (a) All on-chain proposals on the native chains we support will be voted on by the DRO DAO.

    (b) If a quorum isn't reached, the Hydro DAO will vote to abstain from the proposal.

    (c) The Hydro DAO will not create proposals on any of the supported chains.

3. Signaling Proposals

    (a) The DAO can use signaling proposals to better gauge sentiment on parameter changes, or to suggest actions desired of the core team

        i. Lower inflation

        ii. Change percentages of the bulk distributors

        iii. Change weights of the DRO rewards

    (b) The core teams (High Vault & SCRT Labs) will take signaling proposals into strong consideration but reserve the right to act as they see fit in order to best ensure durational success for Hydro Finance.

8 DRO Viewing Key Manager (VKM)

Secret Network utilizes "private contracts", a term originally coined in the Enigma whitepaper.[10] Since smart contracts on Secret Network are private by default, access to see your own assets and interactions must be manually added. "Queries in Cosmos are unable to cryptographically authenticate the querier's identity; Secret Network solves this by allowing contracts to have an encrypted viewing key that is used to validate the identity of the caller. This viewing key allows for decryption of a range of associated data for any given address."[11] A viewing key is required to even obtain basic balances. While this is much more secure than the public practices on other smart contract platforms, this proves confusing and difficult for users. To best leverage the security of private user data while providing a more seamless user experience, Hydro will use a custom-built 'DRO Viewing Key Manager'.

The DRO Viewing Key Manager (VKM) is a contract that designates multiple contracts to query one viewing key. Instead of every token and contract on Hydro having an individual viewing key to be exported, users will only need to create one viewing key that will immediately grant the user the ability to view and use all contracts created by Hydro. This includes the DRO token, LP tokens, Secret Hydro Derivative tokens, HYDR8, applications and games built on Hydro, earn contracts, and more. What this does not include is pre-existing tokens, and tokens that are created independently of Hydro, such as other L2's on Secret Network, or tokens like sXMR or sUST, whose contracts Hydro Finance did not create.

While simplifying the viewing key process is easier on the user and far less computationally demanding than using permits (a viewing key alternative for newer contracts), it comes with the risk of having to over-share data to maintain regulatory compliance. To better protect users' data, the DRO VKM has been developed to be capable of creating secondary viewing keys, which would only share the data of individual contracts. This allows users the freedom to share limited data, while enjoying the ease-of-use of not having to constantly worry about viewing keys. This computational conservation of the contracts in comparison to permits allows for lower gas prices, less stress on the blockchain, and faster execution times.

An additional feature of the DRO VKM are catalogs of users' interactions. Deciphering one's own data while trading and liquidity providing on a privacy-centric platform is far from trivial. To address this, detailed logs that are available only to the user themselves allow for a combination of security, utility, and compliance. These logs, which are cryptographically secured by the viewing key, are then able to be rendered in a clear, readily available, concise user interface that will allow tax information to be exported in the users' desired format.

[10] Zyskind, Guy, Oz Nathan, and Alex 'Sandy' Pentland. "Enigma: Decentralized Computation Platform with Guaranteed Privacy" M.I.T. Living Lab. Massachusetts Institute of Technology, December 2016. http://livinglab.mit.edu/wp-content/uploads/2016/01/enigma_full.pdf

[11] Woetzel, Carter. "Secret Network: A Privacy-Preserving Secret Contract & Decentralized Application Platform." Secure Secrets. scrt.network, January 2021. https://www.securesecrets.org/Secret_Network_Graypaper_2.0.1_1.pdf

9 Liquidity Independence

By building a treasury of Protocol-Owned Liquidity, there will eventually be a threshold at which the protocol is no longer dependent upon mercenary capital. If a signaling proposal is passed that reduces inflation to 0, and the core team agrees that this is best for the protocol, inflation can be fully redirected to the burn address. When this time comes, the derivatives from the substantial treasury of liquidity owned by the DRO DAO will still be earning revenue. This means that liquidity will continue to grow and be placed in accordance with DAO Governance. DRO stakers will also still earn dividends from supported assets and there will still be consistent buy-pressure for the now deflationary DRO token.

Previous AMM's have never decoupled from external liquidity provision, as any protocol-owned liquidity has needed to come from largely unsustainable bond models or fee extraction.[12] This particular eventuality for a currently inflationary token provides a successful model for decoupling, includes sustainable growth, and removes the forced timeline that acts as an expiration date by which a product must reach independence. By creating a synergy between inflationary and deflationary pressure with consistent treasury growth and the promise of future independent functionality, Hydro is as flexible as it is profitable, with long-term sustainability at its core.

[12]Capponi, Agostino, and Ruizhe Jia. "The Adoption of Blockchain-Based Decentralized Exchanges." arxiv.org. arxiv, July 22, 2021. https://arxiv.org/pdf/2103.08842v1

References

Aramonte, Sirio, Wenqian Huang, and Andreas Schrimpf. "Trading in the DEFI Era: Automated Market-Maker." The Bank for International Settlements, December 6, 2021. https://www.bis.org/publ/qtrpdf/r_qt2112v.htm

Callow, Dana A, and Michael Larsen. "Understanding Valuation: A Venture Investor's Perspective." Millennia Partners. Boston Millennia Partners, 2003. http://www.millenniapartners.com/_documents/whitepaper/whitepaperattachment6.pdf

Capponi, Agostino, and Ruizhe Jia. "The Adoption of Blockchain-Based Decentralized Exchanges." arxiv.org. arxiv, July 22, 2021. https://arxiv.org/pdf/2103.08842v1

Gartner, Meghan, and Laurence Gartner. "Gartner 2019 Hype Cycle Shows Most Blockchain Technologies Are Still Five to 10 Years Away from Transformational Impact." Gartner Newsroom Press Releases. Gartner Inc, October 8, 2019. https://www.gartner.com/en/newsroom/press-releases/2019-10-08-gartner-2019-hype-cycle-shows-most-blockchain-technologies-are-still-five-to-10-years-away-from-transformational-impact

Kwon, Jae, and Ethan Buchman. "Cosmos Whitepaper: A Network of Distributed Ledgers." Cosmos Network. Tendermint Inc., January 30, 2019. https://v1.cosmos.network/resources/whitepaper

Litan, Avivah. "Hype Cycle for Blockchain 2021; More Action than Hype." Gartner Blog. Gartner Inc, July 14, 2021. https://blogs.gartner.com/avivah-litan/2021/07/14/hype-cycle-for-blockchain-2021-more-action-than-hype/

Morami, Assaf, Reuven Podmazo, and Itzik Grossman. "Secretfoundation/Snips: Secret Network Improvement Proposals (SNIPs) ." GitHub. Secret Foundation, September 2020. https://github.com/secretfoundation/snips

Nakamoto, Satoshi. "Bitcoin: A Peer-to-Peer Electronic Cash System." Bitcoin.org, 2008. https://bitcoin.org/bitcoin.pdf

Pourpouneh, Mohsen, Kurt Nielsen, and Omri Ross. "Automated Market Makers." IFRO Working Paper, No. 2020/08. University of Copenhagen, Department of Food and Resource Economics (IFRO), Copenhagen, July 2020. https://www.econstor.eu/bitstream/10419/222424/1/IFRO_WP_2020_08.pdf

Woetzel, Carter. "Secret Network: A Privacy-Preserving Secret Contract & Decentralized Application Platform." Secure Secrets. scrt.network, January 2021. https://www.securesecrets.org/Secret_Network_Graypaper_2.0.1_1.pdf

Zhang, Yi, Xiaohong Chen, and Daejun Park. "Formal specification of constant product (xy= k) market maker model and implementation." White paper (2018).

https://github.com/runtimeverification/verified-smart-contracts/blob/uniswap/uniswap/x-y-k.pdf

Zyskind, Guy, Oz Nathan, and Alex 'Sandy' Pentland. "Enigma: Decentralized Computation Platform with Guaranteed Privacy" M.I.T. Living Lab. Massachusetts Institute of Technology, December 2016. http://livinglab.mit.edu/wp-content/uploads/2016/01/enigma_full.pdf

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