



angel  
protocol

**ANGEL PROTOCOL 2.0**  
**AN ECOSYSTEM FOR**  
**IMPACT-DRIVEN**  
**COMMUNITIES**

**WIN AND HELP WIN**

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# INTRODUCTION

Angel Protocol was founded in May 2021 to solve a problem affecting many charitable organizations: the lack of predictable, stable cash flows. Roughly 50% of all charities have less than 6 months of operating reserves, making them particularly exposed to financial fluctuations. This situation is exacerbated in countries with less established economies.

We created a versatile DeFi endowment product that is used by more than 160 charitable organizations in 26 countries. In only a few months, they were able to raise a total of \$4.1 million through [our platform](#) and targeted fundraising campaigns such as [Restore Earth](#). An additional \$1.6 million for charities was raised and held in our very own endowment (the “AP Endowment”).

We created the DANO, the world’s first Decentralized Autonomous Non-profit Organization, underpinned by \$HALO, its native token used for governance and curation. We designed an innovative set of economic incentives driven by \$HALO to ensure that the most deserving charities have a chance to receive donations from our community as well as the Angel Alliance, [a group of over 100 for-profit companies, projects, and protocols](#) that have pledged 1-10% or more of their annual revenue to help fund charities in our indexes in perpetuity.

In our initial [litepaper](#), we referred to our endowments as a new financial primitive that could be repurposed for a number of use cases (aka verticals): donor-advised funds, microfinance, personal finance, UBI to name just a few. By integrating these use cases into the DANO and redirecting a portion of the fees generated to charity, we developed the idea of an ecosystem for social impact.

This paper provides an update on these initial ideas by introducing Angel Growth Funds, versatile programmable DeFi funds with DAO tooling that share most of their codebase with our charity endowments. Angel Growth Funds always generate impact, whatever their purpose, by directly sharing a portion of the fee they generate with charities.

We will explore how Angel Growth Funds, in combination with a network-wide reputation system, makes Angel Protocol a true web3 ecosystem for social impact and a premier choice of technology for social impact entrepreneurs that need a swift time-to-market with tried and tested platforms and tools.

Finally, we will provide an update to \$HALO and our tokenomics, introducing important concepts such as token locking for additional governance vote weight and bonus rewards coming from fees generated by Angel Growth Funds as well as a novel method of estimating staking curation.

# THE FOUNDATION: CHARITIES

At the time of writing, June '22, we had onboarded in excess of 160 charities on Angel Protocol, with new sign-ups growing at a rate of 7% per week (or ~30% per month) with high conversion rates of 40% and a low 2% churn.

We're honored to be able to count charitable organizations from more than 23 countries ranging from small, \$10k - \$20k turnover charity schools in Africa, to multi-national charities with over 2,000 employees turning over more than \$25m in donations a year.

Charities large and small saw the potential for Angel Protocol to provide for their future. Both saw how endowments could support this process and donations could come in from a marketplace that opened their offering out to a completely new and global donor base.

While it is relatively simple for charities to accept crypto and exchange it for fiat, the potential for DeFi to multiply the returns, increase donor engagement, and provide full transparency to donors is profound.

## **Do charities love our product? Better to let them give their views:**

"Angel Protocol is an incredible idea, platform and opportunity. I have loved working with the team. Being new to Angel Protocol we are still unlocking the potential."

Faith Flanagan: [Buckminster Fuller Institute](#)

"It has been incredible, uplifting, and smooth onboarding. I have not taken full advantage of all that Angel offers yet and so I'm hoping this medium will help jumpstart our crypto fundraising activities."

Saxon Gottfried: [Give Refugees a Chance](#)

"Great! Our onboarding process was really smooth and the assistance from the team members was brilliant. We're still at early stages but as this fundraising enables rolling funds it's ideal for our projects." Rebecca Dallimore: [SEED Madagascar](#)

"We are in love with the easy process the protocol has created to start an endowment. We have always focused on recurring giving with our donors, and the endowment takes this to the next level. I think we can grow our endowment to create a steady flow of income to preserve our efforts through time. Our goal is \$3,000,000. This would give us the income to break even every month and continue helping."

Daniel: [Territorio de Zaguates](#)

"We have recently been listed on the Angel Protocol platform. To be honest, initially the world of blockchain scared us a lot. But thanks to the team behind this project we were reassured, we met real people with real goals and great ideas. We are confident in the success of the protocol and especially of our campaign. At the moment, after getting familiar with the platform, we started sponsoring our page. It will be hard to reach our local market, given the little knowledge of the world of cryptocurrency and blockchain. However, we are sure that in the near future more and more people will approach and use these systems to do charitable donation."

Carlo Cini: [Amalfi Impresa Sociale](#)

"We are empowering girls to become future leaders in their field of work with particular attention to the agriculture sector. Education is an investment with a secured long-term return on investment, and Angel Protocol will directly benefit from revenues generated through our activities. Your platform can be leveraged to increase those social activities while increasing our contribution (fees) to the Angel Platform. Angel Protocol is already benefiting from our charity as we have been introducing Angel Protocol to other NGOs and promoting your platform on our social media platforms."

Neima Ferreira: [Fundação ATENA para a Criança e Mulher](#)

## THE FOUNDATION: CHARITIES

"I personally like to check our AP balance weekly. I like to see the numbers grow. When donations are slow or there's not much movement, it's easy to feel like you have zero momentum. Looking at the endowment growth week by week gives me a little spark of inspiration. With our current endowment balance and the projected yield, we expect our administrative expenses to be covered. The yield is currently one of our largest contributors to date."

Jenna Edwards: [For A Day Foundation](#)

Even after the difficulties caused by UST de-pegging, charities continue to support Angel protocol and look to the future:

"I view Angel as one of the most exciting concepts I've seen in my entire career and, for the first time in years, was filled with optimism. The future may look a bit scary today – but the values driving this are resilient, and I for one am going nowhere..."

Nick Kershaw: [Impact Marathon](#)

"We are 100% supporting you in this uncertain time and I am sure you will be able to find innovative solutions to overcome these issues and you will be back stronger than ever."

Neima: [Npili School](#)

"It might not mean much, but Courage Romania, with debts and problems arising from being neighbors with Ukraine and being a small NGO, will NOT withdraw anything from the Angel Protocol. We are with you all the way."

[Curaj Inainte](#)

"You are doing good work for the greater good, and we all here appreciate what you are trying to do for nonprofits around the world."

Sarah Adams: [Women Empowerment](#)

And the impact? Extremely promising. [This video](#) shows how funds raised via Angel Protocol, proposed & voted on by the community, and disbursed immediately have helped change lives and rebuild villages.



# CRYPTO-PHILANTHROPY IS ON THE RISE

Many charities continue to face fundraising challenges as the pandemic creates seismic shifts in the landscape. Public interest in in-person fundraising activities and volunteerism remains depressed.

Nearly all charitable organizations in [CAF America's study](#) said the pandemic negatively impacted them, and ~74% are pivoting efforts to digital fundraising. Furthermore, smaller charities seem to have been disproportionately affected by the pandemic given their limited resources.

Consequently, some charities have been looking at new fundraising opportunities in light of the changing environment. One of the markets that have shown tremendous promise is the crypto community. Crypto investors have not only done incredibly well but there's evidence to suggest the demographic is quite philanthropic as well.

## CRYPTO COMMUNITY AND PHILANTHROPY

Cryptocurrency philanthropy is still relatively new, but the growth has been massive. A recent CNBC survey revealed that a large portion (83%) of Millennial millionaires own crypto investments. The results are consistent with Fidelity's survey, which suggests nearly half of Millennials believe Crypto is a wise investment compared to only 6% of baby boomers. Better yet, Fidelity's "Cryptocurrency and Philanthropy" report indicates Millennials are also a socially conscious generation with a propensity to give. Of those surveyed, 88% of Millennials indicated that "Charitable giving is a significant or important part of their life." compared to Gen X (77%) and Baby Boomer (69%). Source: "Cryptocurrency and Philanthropy" by Fidelity Charitable

Additionally, a Give.org report of 2021 recently pointed out that even though the number of charitable donors is decreasing, younger people and minority groups express a higher desire to be approached by charities. Thus charities need to deliberately build meaningful connections with these groups by using a strategy that reaches them easily, by increasing trust, and by strengthening bonds with individual donors

Our experience at Angel Protocol reaffirms these beliefs. The success of our recent sustainability campaign, "Restore Earth," is a testament to the crypto community's charitable nature. "Restore Earth," which ran between Nov 30th through Dec 31st, raised over \$1.5 Million from 2,000+ individual crypto donors and web3 projects. This funded three areas addressing climate change through [Global Brigades'](#) reforestation campaign, the [Solar Electric Light Fund's](#) initiative to offset carbon with renewable energy, and the [5 Gyres Foundation](#) to reduce ocean plastic.

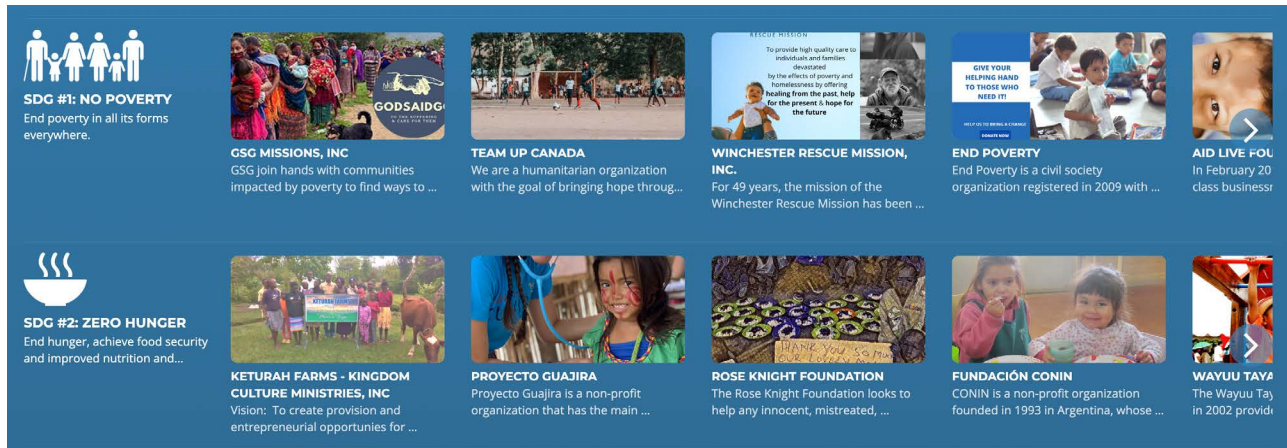
The charitable nature of the crypto community extends beyond individual crypto investors. We have seen crypto protocols, validators, and NFT projects commit voluntarily to a triple bottom line (TBL) approach.

While fundraising continues to be one of the biggest challenges for charities, we believe crypto investors and projects present a new and largely untapped opportunity for charity fundraising.





# THE CHARITY MARKETPLACE IS GETTING BETTER AND BETTER



The Charity Marketplace was launched in February 2022. With initially just a handful of charities, it immediately provided a route for donors to identify which charities exist within each 'charity index' based on the 17 UN Sustainable Development Goals.

The marketplace has grown to include over 160 charities, with the following functionality:

## FOR CHARITIES:

- A bespoke, editable marketing page where they can add and change text, links, financial information, and images
- Immediate sight of their endowment and liquid account balance
- Withdraw funds to their wallet for immediate use
- Transaction amounts for each donation into their account
- End-to-end automated registration process

## FOR DONORS:

- Choose from a variety of wallets to connect and donate
- Easy identification of charities in each UN SDG index
- Simple donation route using a variety of crypto currencies
- Choose the percentage of their donation to be directed to either the endowment or liquid accounts

- Request a tax receipt to be used as appropriate in their own jurisdiction
- A 'My Donations' page to keep track of their donations and request a receipt again if needed
- Transaction hash details for checking on the blockchain

Taking into consideration the headwinds associated with Terra's downfall, our roadmap for the charity marketplace is the following:

## Q3 2022:

- Fiat donations & additional crypto donation options
- Fiat off-ramp options
- Better charity curation mechanism to improve discoverability and encourage donations
- Fully-fledged governance with charity sub DAOs

## Q4 2022:

- Yield redirection from third party DeFi protocols
- Donor management tools & KYD
- Financial reporting features
- Discrete "programs" fundraises

## H1 2023:

- Recurring donations
- Cross-chain vaults

# THE ANGEL ALLIANCE

## SOCIAL IMPACT CODED INTO SMART CONTRACT DNA

The Angel Alliance is composed of over 100 impact-driven businesses, protocols, validators, and projects that have taken a giving pledge, committing part of their hard-earned revenue to Angel Protocol to fund charities in perpetuity.

This initiative is one of the most incredible developments to spring from Angel Protocol over this last year. ApolloDAO, a decentralized hedge fund, proposed donating 1% of its annual revenue to Angel Protocol. This act of generosity created a ripple effect of giving within the community where many protocols, DAOs, NFT projects, and validators joined ranks in a social impact pledge to form what is known today as the Angel Alliance.

There has been a growing rise in demand for purpose-driven companies, creating a surge in Environment, Social, and Governance (ESG) investing. ESG assets are poised to reach \$41 trillion by end of the year, accounting for **one in three dollars managed globally**. By tapping into this momentum with DeFi protocols and NFT projects we can code charitable revenue into smart contracts, turning formerly opaque company giving pledges into verifiable on-chain social impact streams.

### ALLIANCE MEMBERS (LIVING GRAPHIC)

#### PROTOCOL



#### VALIDATOR



#### NFT

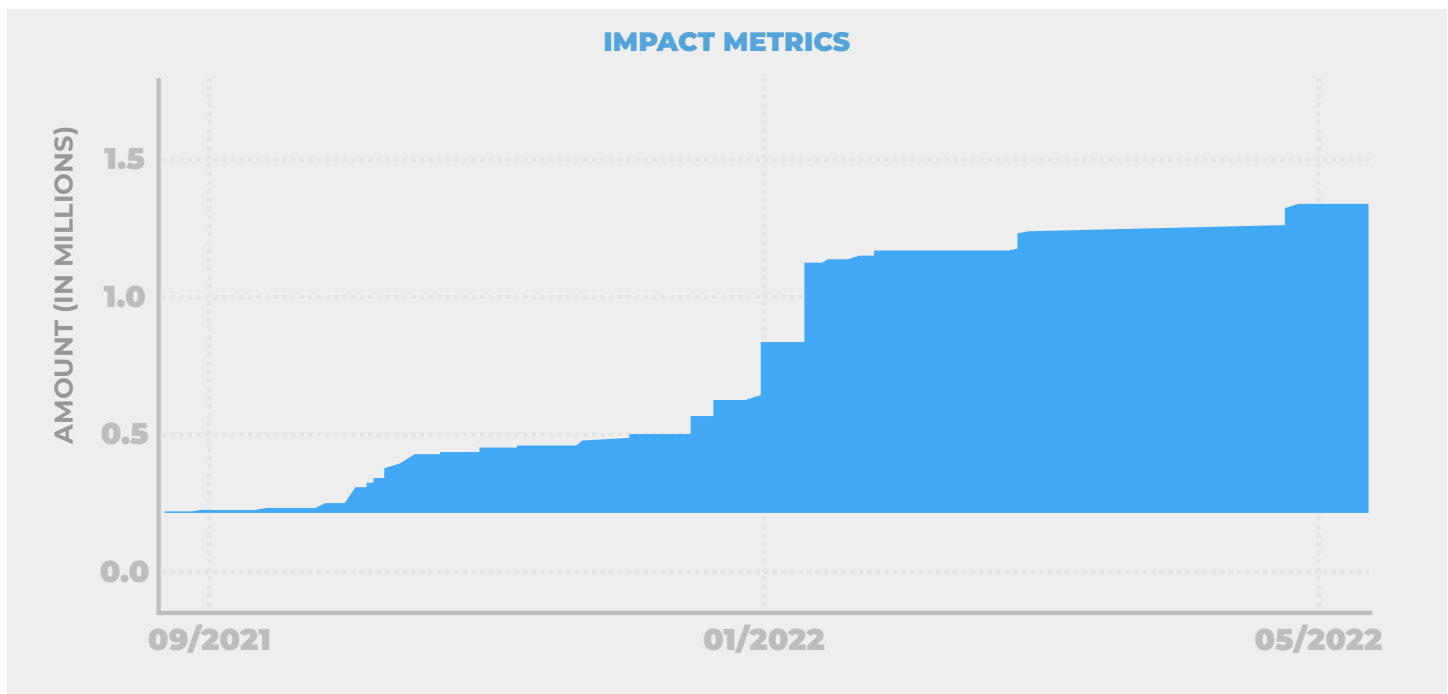


#### PARTNERS





## THE ANGEL ALLIANCE



### THE “LOCKED FOR GOOD” PROGRAM:

Soon after the Angel Alliance was formed, Loop Finance, a community protocol and decentralized exchange (DEX), announced that they would stake 10% of their tokens in the Loop Charitable Fund, with the yield going directly to Angel Protocol charities. From this incredible act of generosity, the “locked for good” program was born.

### ANGEL ALLIANCE “LOCKED FOR GOOD” TOKEN DONATIONS

#### OPPORTUNITY:

The “**locked for good program**” is designed for protocols that want to contribute to social impact but want to avoid adding sell pressure to their native-token.

#### PROPOSITION:

Donated tokens are staked permanently and their yield is redirected to fund charities, creating a **perpetual giving stream**.

**TOTAL DONATED: \$1,934,246**

**NUMBER OF DONATIONS: 626**

**NUMBER OF DONATORS: 445**

- Tokens can either be staked by the native protocol or staked by the Angel Alliance
  - If LP is only yield opportunity, we can do “charity owned liquidity” by splitting donation
- Donations can be directed into our rotating/curated charity indexes aligned with the 17 Sustainable Development Goals or a specific charity/index
- Current “Locked for Good” Partners: Loop Finance, Lunaverse, StarTerra, Kujira, and Ceres/Terraformav



## THE ANGEL ALLIANCE

### EXPANSION AND OUTLOOK :

By its nature, the Alliance's mission is chain-agnostic. Our goal is to engage with as many projects, protocols, and teams as possible that share our vision of creating lasting and sustainable social impact in our world.

We recently began expanding cross-chain with amazing, impact-driven projects like Olympus DAO and Plesr DAO joining our ranks.

We are also in the process of establishing a validator presence on every network, as well as forming partnerships and parallel initiatives with established validators and ecosystem foundations. These efforts are already well underway, so if you would like to get involved, please reach out to [trevor@angeprotocol.io](mailto:trevor@angeprotocol.io) or <https://t.me/twiceinabluemoon>.



# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

The Angel Growth Funds were born from the observation that with simple refactoring we could turn our charitable endowment financial primitive into very powerful DeFi instruments that are versatile enough to cover an almost infinite number of use cases.

Angel Growth Funds are **Programmable DeFi Funds** with **DAO Tooling** that **always generate impact**.

## 1. PROGRAMMABLE

Angel Growth Funds are smart contracts with a defined set of parameters that are set by their creator/owner:

- **List of contributors & beneficiaries:** who is allowed to put assets in and who is allowed to receive assets from the Angel Growth Fund.
  - **Split of contributions to Endowment & Liquid accounts:** inheritance from the endowment primitive that allows having a portion of funds locked for a period of time if needed. Can specify if contributors to the Angel Growth Fund are able to define this split or if it is the sole authority of the smart contract.
  - **Split of yield to Endowment & Liquid accounts:** how should the yield generated by the investment strategies deployed by the Angel Growth Fund be distributed.
  - **Investment strategies & who sets them:** investment strategies define how the assets held by the Angel Growth Fund are distributed. Different strategies can be set for the Endowment account and for the Liquid account. The ownership of investment strategies can be delegated by the owner(s) of the Angel Growth Funds.
  - **Fees:** Angel Growth Fund owners can set fees on deposits, withdrawals, profits from investment strategies or TVL.
- **Ability to accept/reject contributions or withdrawals:** make every deposit or withdrawal of asset conditional to its acceptance by the owner of the Angel Growth Fund.
  - **Maturity of the endowment and logic to be applied at maturity:** the Maturity is a set period of time until the Angel Growth Fund expires. The owner of the Angel Growth Fund can define what should happen once the maturity is reached, such as:
    - Should all the assets be divested automatically?
    - Should all contributions be halted? Should all withdrawals be halted?
    - Should funds be available to Contributors (in Endowment Account)? Should funds be available to beneficiaries (in Liquid Account)?
  - **Possibility for any or all of parameters to be changed by the owner in the future:** this allows Angel Growth Fund owners to set-up trustless funds if they wish so. Each parameter can be configured.
  - **Create a DAO:** either use an existing token or create a new one to create a DAO. Distribute tokens through airdrop, contribution matching or bonding curves. Governance contracts can be set up to accommodate a variety of tallying configurations (linear, quadratic, capped, etc.).

# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## 2. DEFI FUNDS

All Angel Growth Funds accept deposits of assets that have been pre-approved by the governance of the DANO. Those assets can then be held, bought, sold, staked, used to provide liquidity or any other use available. Investment strategies decide how assets are invested.

We are actively looking to quickly add as many yield sources as possible to let our users build diversified portfolios to match the risk they are comfortable with.

In accordance with our mission of democratizing DeFi, we are developing strategy builders with very clear and streamlined user interfaces that can be used by users not native to DeFi. Those interfaces can be turned into more comprehensive (and more complex) dashboards for experienced users.

## 3. DAO TOOLING

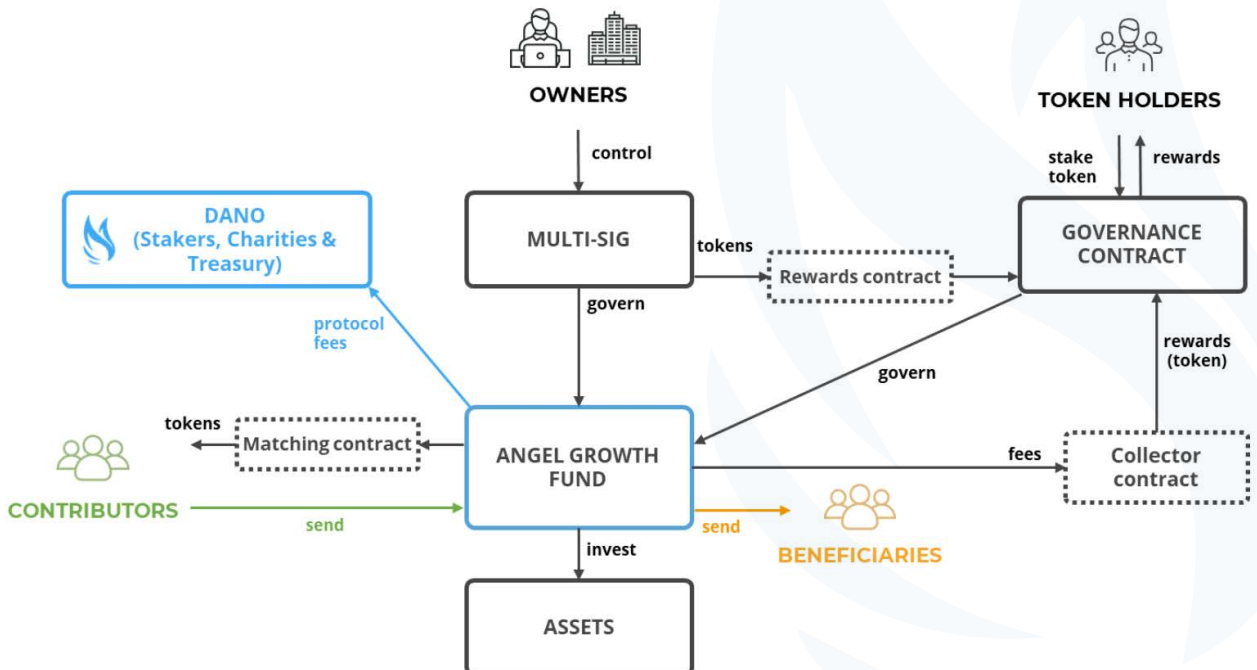
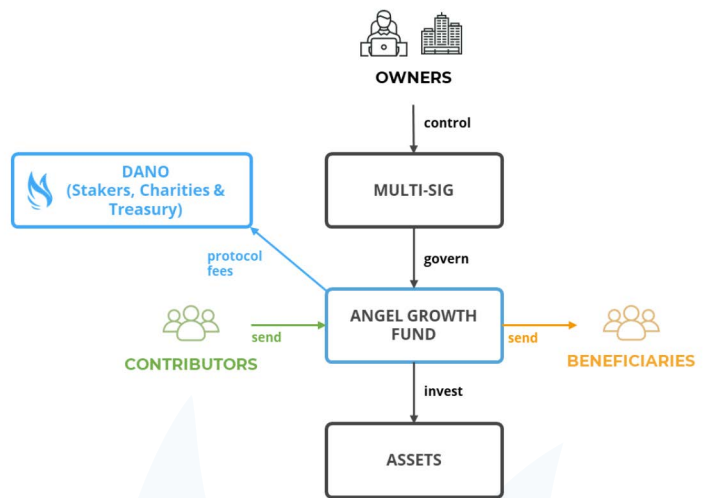
### i. GOVERNANCE

#### Multi-sig setup:

The default setup for Angel Growth Funds on creation is a 1/1 multisig. Owners can then add as many addresses if need be. This is the simplest form of an Angel Growth Fund.

At any time, the owners of Angel Growth Funds can opt-in for DAO governance with either an existing token that has been pre-approved by the DANO or by creating a new token. At the moment of the opt-in, the owners can decide which parameters of the Angel Growth Fund fall under the governance of the DAO and which are still controlled by the native multi-sig.

#### Existing token setup:





## ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

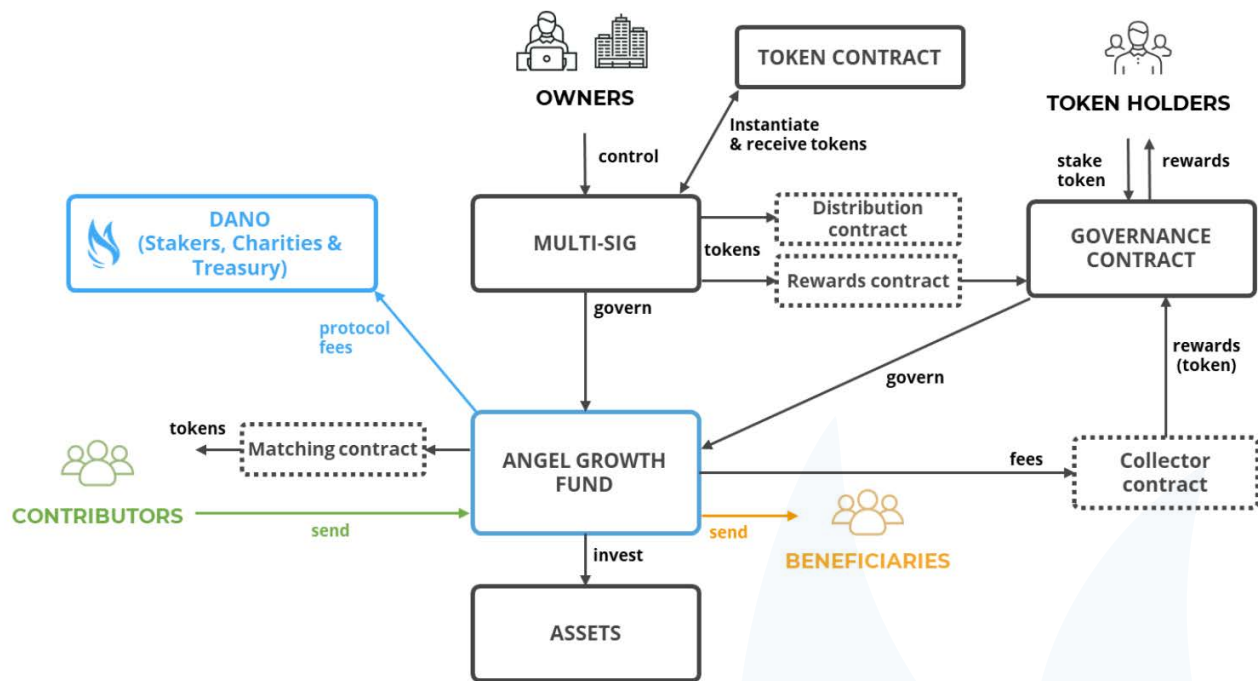
When the owners of an Angel Growth Fund decide to opt-in for DAO governance using an existing token, a governance contract is instantiated that allows token holders to vote on the parameters that have been chosen by the contract owner.

Eligible tokens are pre-approved by the DANO along with a designated AMM token pair contract address that is used to convert fees from the Angel Growth Fund (generally denominated in stablecoins) into the token in use for distribution to stakers as rewards.

The owners of an Angel Growth Fund can instantiate a Matching contract that contains a reserve of tokens that are distributed to contributors following a set of rules defined by the governance of the Angel Growth Fund.

A Rewards contract can also be instantiated that enables using a reserve of tokens to increase staking rewards.

### Native token setup (fixed supply):

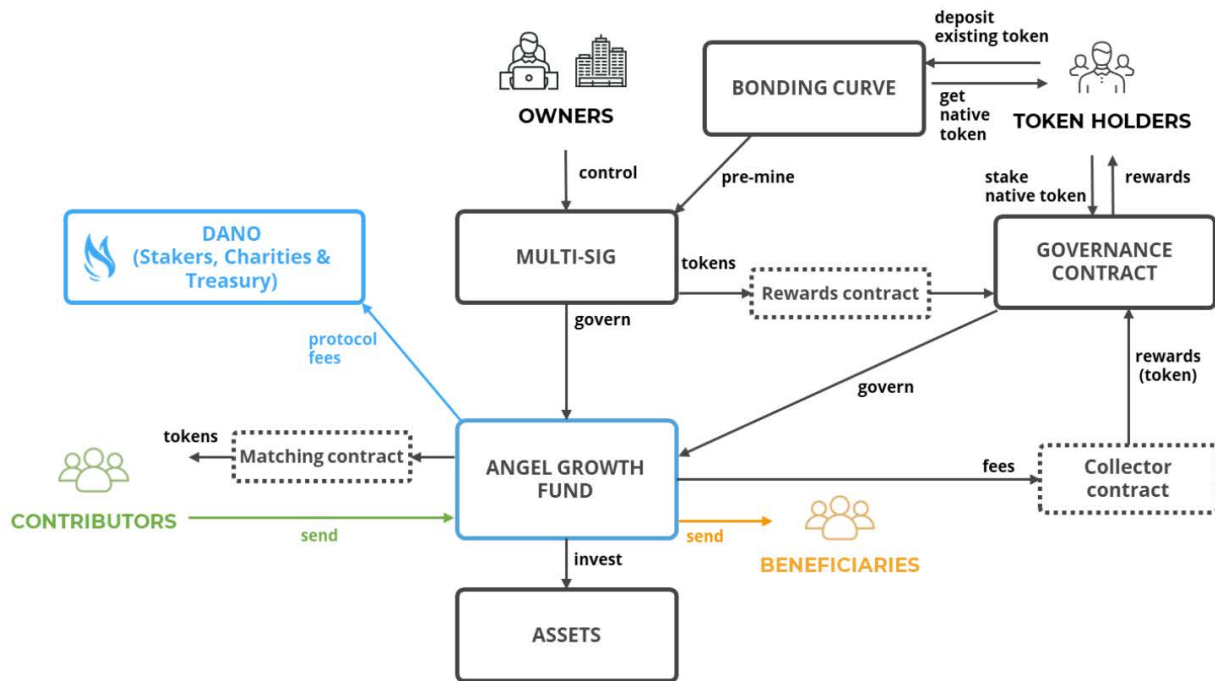


When opting for a native token setup, owners of an Angel Growth Fund first instantiate a token contract with a customizable set of initial balances.

Tokens can be distributed via a number of options, either internal (airdrop) or external (AMM, LBP, IDO, bonds, etc...)

# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## Native token setup (variable supply with bonding curve):



Alternatively, the owners of an Angel Growth Fund can choose to use a bonding curve to distribute their native token using any pre-approved token as a reserve asset.

The shape of the bonding curve is entirely customizable and can be made convex, concave or linear by using different parameters in the formula described in our own tokenomics.

The Governance contract offers different methods for vote tallying (linear, quadratic, capped, etc.)

For Angel Growth Funds with native tokens, a token-\$HALO pair contract can be easily created right after the instantiation of their token contract.

## ii) ADDITIONAL DAO TOOLING

Angel Growth Funds are designed with extreme modularity in mind in order to be able to easily integrate with existing DAO tooling such as for multi-sig, payments, RFPs, etc.

We expect however that the unique design of Angel Growth Fund will inspire exclusive DAO tooling.

# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## USE CASES

### i. SIMPLE PERSONAL ENDOWMENT

Sophie's niece Joanna turns 7. Sophie, being a strong supporter of crypto and sensitive to social impact, wants to set up a crypto savings account that would become available to Joanna when she's 18 while donating automatically to charities.

#### PARAMETERS:

**Whitelisted contributors:** Sophie

**Whitelisted beneficiaries:** Joanna

**Split of contributions to Endowment & Liquid accounts:** 100% to Endowment (locked) account

**Split of yield to Endowment & Liquid accounts:** 100% to Endowment (locked) account.

**Investment strategies & who sets them:** Sophie can set the investment strategy

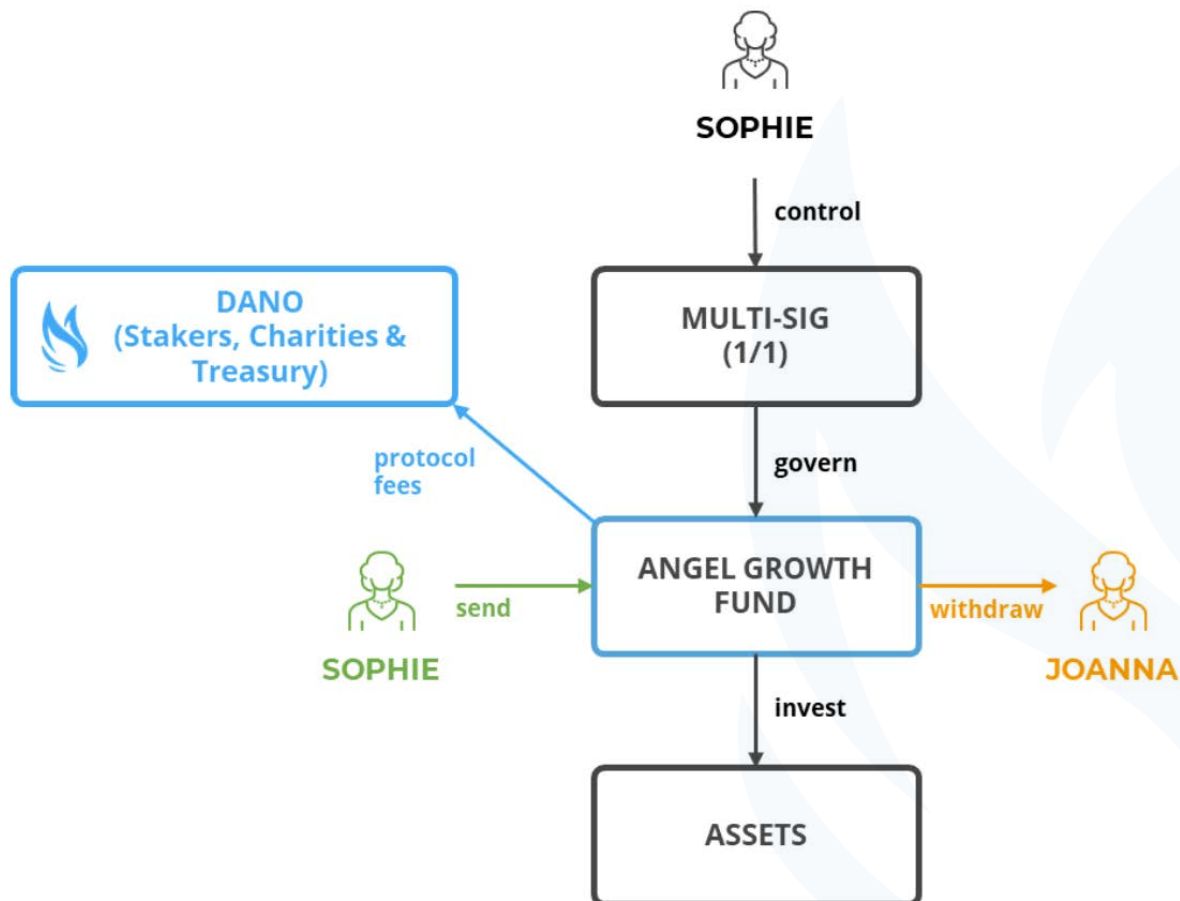
**Fees:** No extra fees

**Ability to accept/reject contributions or withdrawals:** No need for confirmations

**Maturity of the endowment:** maturity set at Joanna's 18th birthday.

**Logic to be applied at maturity:** transfer all balances to liquid account at the disposal of Joanna

**Possibility for any or all of parameters to be changed by the owner in the future:** yes, Sophie would like to have the optionality to change anything if needed.



# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## II. CHARITABLE ESTATE PLANNING TRUST

Leila is a high earner and a crypto investor sensitive to social impact. After a particularly fruitful year, she wishes to offset some of her income tax with a special estate planning trust. This trust provides an immediate tax write-off for donations to charities she will make in the future while allowing her to get yield from staking her crypto assets. Any remaining funds are eventually available to Leila.

### PARAMETERS:

**Whitelisted contributors:** Leila

**Whitelisted beneficiaries:** Charities (through payment module)

**Split of contributions to Endowment & Liquid accounts:** 100% to Endowment (locked) account - every year the amount to be paid to charity is placed into the Liquid account and sent to charities

**Split of yield to Endowment & Liquid accounts:** 100% to Endowment (locked) account.

**Investment strategies & who sets them:** Leila can set the investment strategy

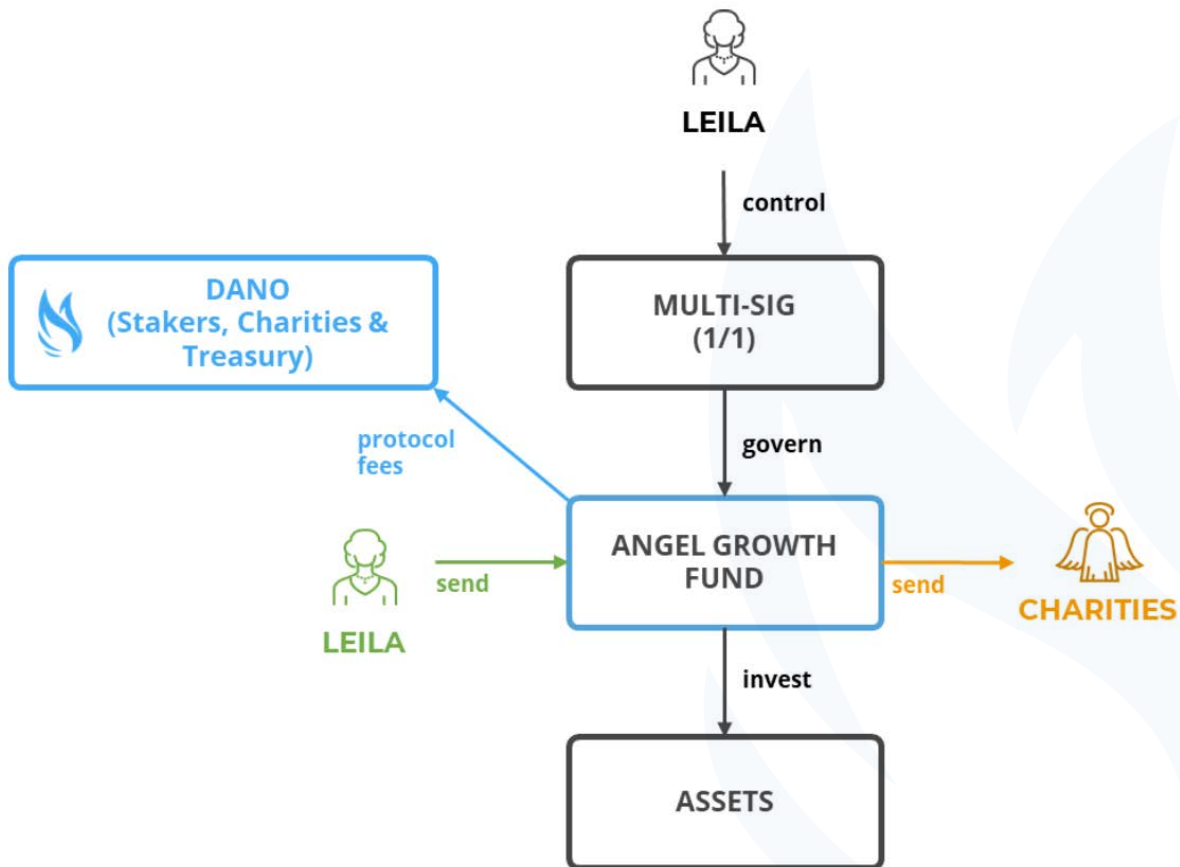
**Fees:** No extra fees

**Ability to accept/reject contributions or withdrawals:** Need to confirm withdrawals

**Maturity of the endowment:** 10 years

**Logic to be applied at maturity:** set whitelisted withdrawal address to Leila's

**Possibility for any or all of parameters to be changed by the owner in the future:** yes, Leila would like to have the optionality to change anything if needed (in spite of her tax scheme becoming void if she did, she still likes to have the option).





# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## III. EMPLOYEE PENSION PLAN

Leila wants her company, Leila Inc., to use a system that contributes to social impact for its employee pension plans.

**PARAMETERS:**

**Whitelisted contributors:** Leila Inc.

**Whitelisted beneficiaries:** 1 Employee

**Split of contributions to Endowment & Liquid accounts:** 100% to Endowment (locked) account

**Split of yield to Endowment & Liquid accounts:** 100% to Endowment (locked) account.

**Investment strategies & who sets them:** Leila is the primary owner of the investment strategy. Can be delegated to employee if needed

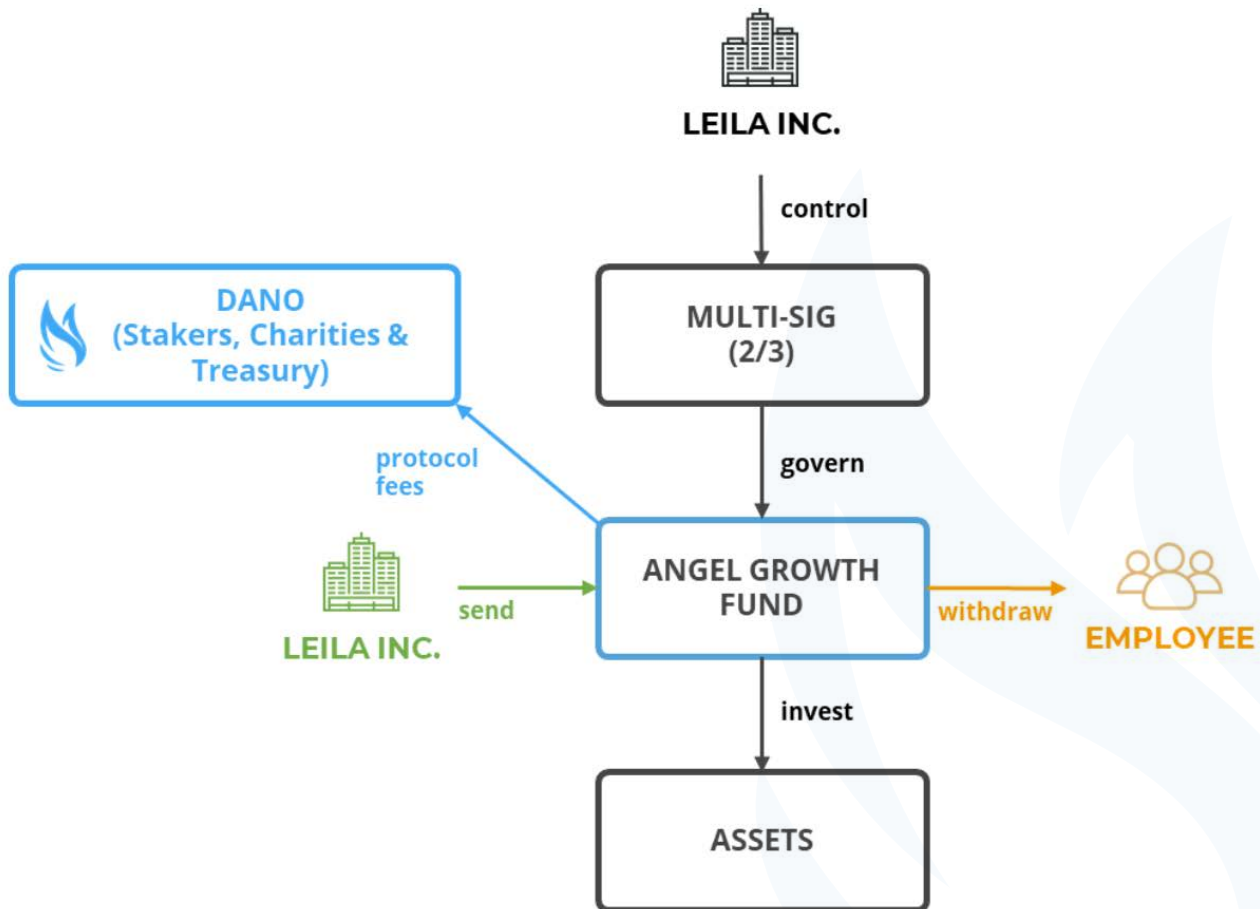
**Fees:** No extra fees

**Ability to accept/reject contributions or withdrawals:** No need for confirmation

**Maturity of the endowment:** perpetuity

**Logic to be applied at maturity:** N/A (when necessary Leila Inc.'s employees can make the funds available to the employee through the Liquid account)

**Possibility for any or all of parameters to be changed by the owner in the future:** Yes



# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## IV. SOCIAL IMPACT FUND

A licensed fund manager with deep geographic expertise wishes to raise a non-discretionary social impact fund from investors from the Angel Protocol ecosystem. The fund manager has instantiated a \$FUND token contract with a balance of 30 million assigned to a donation matching contract it has previously instantiated. KYC'ed investors contribute in stablecoins and receive 1 \$FUND for every \$1 in stablecoin contributed to the fund.

### PARAMETERS:

**Whitelisted contributors:** KYC'ed investors

**Whitelisted beneficiaries:** Payment module

**Split of contributions to Endowment & Liquid accounts:** 100% to Liquid account

**Split of yield to Endowment & Liquid accounts:** 100% to Liquid account.

**Investment strategies & who sets them:** The investment strategy (staking) is controlled by the Fund Manager (essentially money markets for idle stablecoins waiting to be invested). \$FUND stakers vote on the execution message to transfer available funds to the beneficiaries (social impact projects)

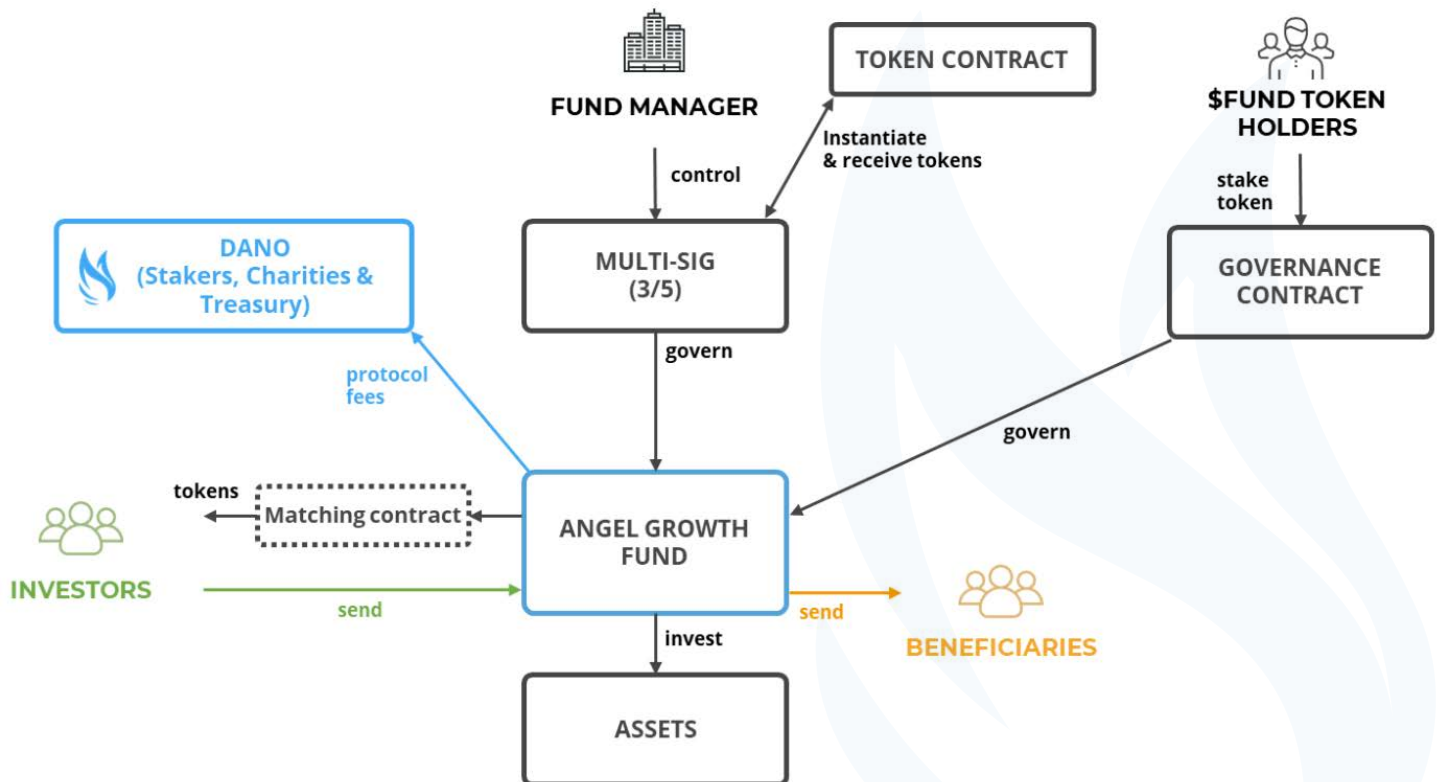
**Fees:** 2% management fee transferred to the multi-sig

**Ability to accept/reject contributions or withdrawals:** Need to confirm withdrawals

**Maturity of the endowment:** perpetuity (can be set at 8 years to be trustless)

**Logic to be applied at maturity:** N/A (need to be manual/external module to calculate carried interest)

**Possibility for any or all of parameters to be changed by the owner in the future:** No, most parameters locked



# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## V. OLYMPUS LOSSLESS IMPACT GROUP

A group of \$OHM token holders (the “Core Group”) have decided to come together to create a social impact DAO seeded by a grant from Olympus’ Treasury. The objective of the group is to stake the full amount of the grant and use the proceeds to fund social impact projects. This way, the grant can be returned in full to the treasury at any time. The DAO is open to any \$OHM token holder to vote for the allocation of the funds.

To build early-on support for the impact group, the Core Group has set a concave bonding curve that rewards early supporters. The \$OHM reserve in the bonding curve is staked to generate yield for holders of the native token.

### PARAMETERS:

**Whitelisted contributors:** Anyone

**Whitelisted beneficiaries:** Social impact projects

**Split of contributions to Endowment & Liquid accounts:** 100% to Liquid account

**Split of yield to Endowment & Liquid accounts:** 100% to Liquid account.

**Investment strategies & who sets them:** The investment strategy (staking) is controlled by the Core Group. \$TIME stakers vote on the execution message to send funds to beneficiaries

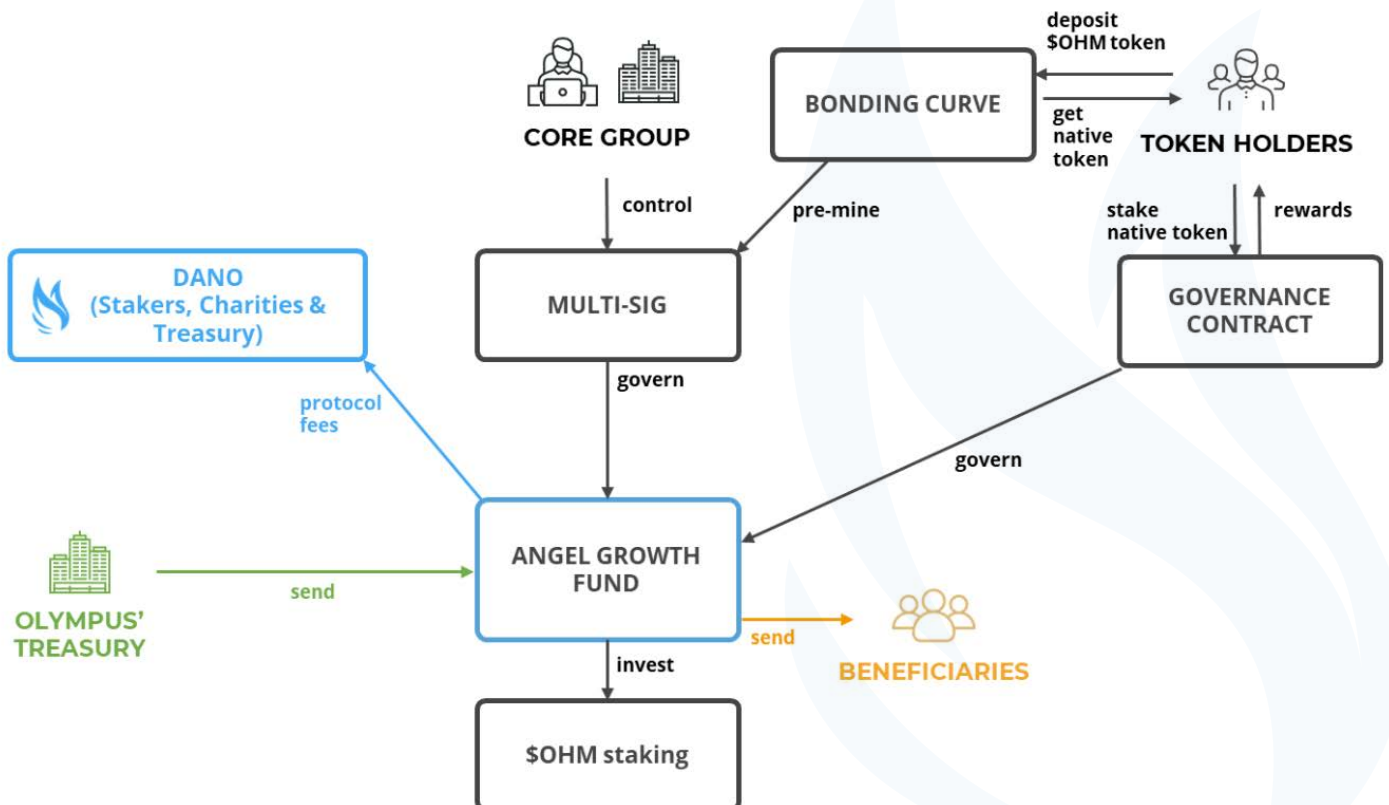
**Fees:** No extra fees (stakers are rewarded through the bonding curve)

**Ability to accept/reject contributions or withdrawals:** Need to confirm withdrawals

**Maturity of the endowment:** perpetuity

**Logic to be applied at maturity:** N/A (by default make all funds available to be withdrawn to the Core Group multisig)

**Possibility for any or all of parameters to be changed by the owner in the future:** Yes



# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## VI. SOCIAL IMPACT COLLECTIVE

Ocean preservation activists from the Angel Protocol ecosystem have decided to create a program to protect a South American endangered species. They decide that the collective is 100% community-led and decentralized. They instantiate an NFT contract with 1,000 member tokens and 20,000 contributor tokens for large donors, all owned by the Angel Growth Fund initially. They transfer member NFTs to the relevant members, instantiate the Governance contract and pass all rights from the multi-sig to the Governance.

### PARAMETERS:

**Whitelisted contributors:** Anyone

**Whitelisted beneficiaries:** Members of the collective earning a salary / suppliers of the collective

**Split of contributions to Endowment & Liquid accounts:** 100% to Liquid account

**Split of yield to Endowment & Liquid accounts:** 100% to Liquid account.

**Investment strategies & who sets them:** The investment strategy (staking) is controlled by the token holders.

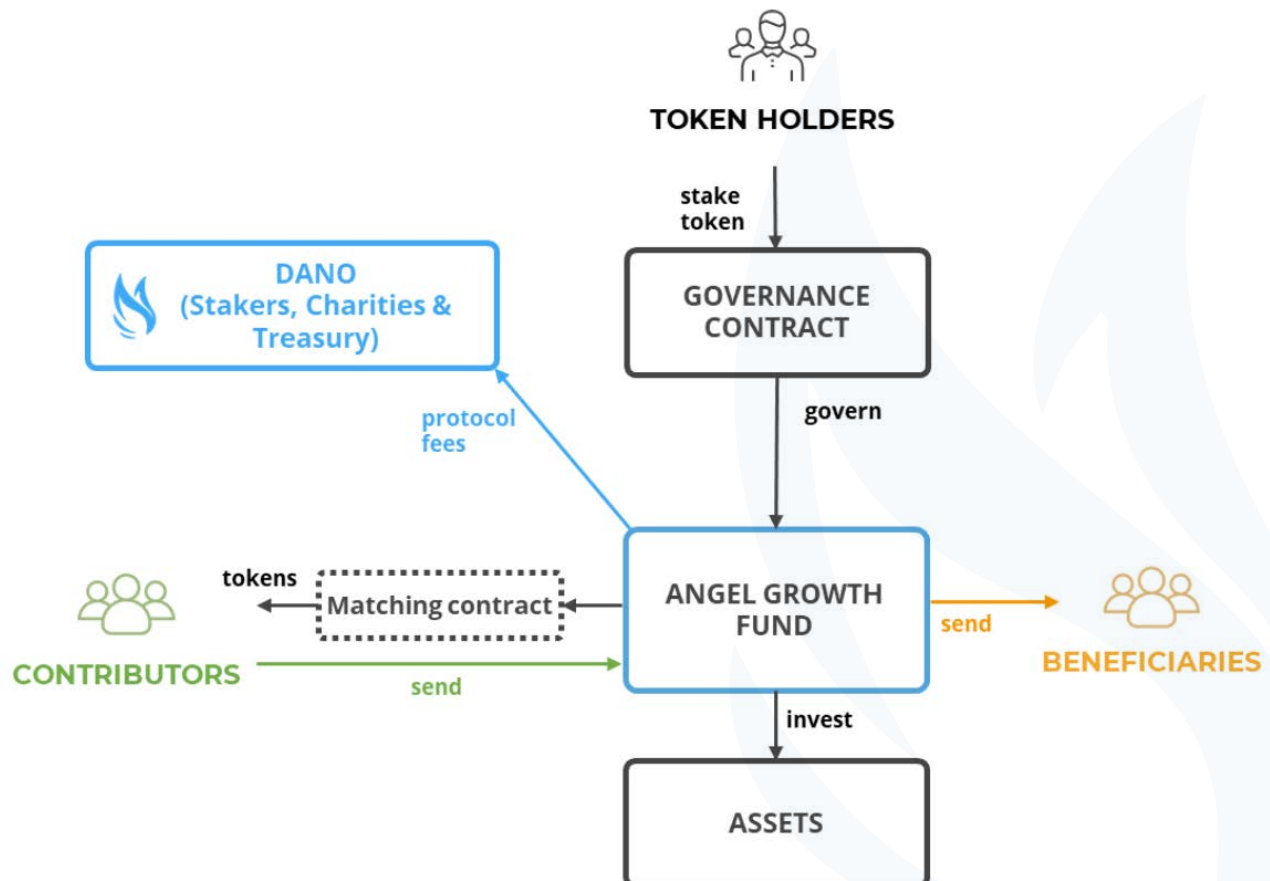
**Fees:** No extra fees

**Ability to accept/reject contributions or withdrawals:** Need to confirm withdrawals

**Maturity of the endowment:** perpetuity

**Logic to be applied at maturity:** N/A (by default make all funds available to be withdrawn to the Core Group multisig)

**Possibility for any or all of parameters to be changed by the owner in the future:** Yes





# ATTRACTING CAPITAL FOR IMPACT: ANGEL GROWTH FUNDS

## ROADMAP

Angel Growth Funds share a large portion of the codebase with Charity Endowments and DANO governance elements. At the time of writing this paper, June '22, 75% of the Angel Growth Funds MVP codebase overall was delivered:

- Core endowment: 95%
- Native multi-sig: 100%
- Token instantiation: 80%
- Governance contract: 70%
- Bonding curve: 80%
- Donation matching: 75%

Taking into consideration the headwinds associated with Terra's downfall, our roadmap is the following:

### Q3 2022:

- Delivery of the MVP. Users will be able to deploy simple Angel Growth Funds with a native multi-sig.
- Intensive testing of DAO deployments (existing tokens, bonding curves & native token) & testing of integrations
- Develop current business development opportunities (UBI, social impact venture studio, estate planning products)

### Q4 2022:

- Deployment of Angel Growth Funds with DAO tooling and integrations
- Addition of new configurable parameters
- DAO tooling integrations in production
- Goal: \$20 million of TVL in Angel Growth Funds

### H1 2023:

- More integrations
- Intensification of business development efforts
- Goal: \$50 million TVL

## USER INTERFACE

We strongly feel that the current governance modus operandi doesn't live up to the opportunity provided by DAOs. Akin to the beginnings of crypto, the current user experience is poor, with many protocols using a plethora of disjointed services to achieve simple consensus: community on Discord, long-form discussions on Discourse forums, polls on Snapshot, vote on WebApp, etc.

We believe that the approach taken by Commonwealth is much sounder: a one-stop-shop for all governance-related matters. We will deliver a similar experience: an open-source forum integrated in the Angel Growth Fund community profile, with verified messages and polls (either through digital signatures with recorded hashes on the blockchain or IPFS) and direct access to attached community proposals. This way, we hope to greatly improve user experience where verified users (with tokens staked) can discuss a proposal, improve it, gauge interest, and vote to adopt it in a streamlined manner and with version control, all from one static URL.

Our vision is to translate via our interfaces the same experience as a small town: neighborhoods represent DAOs, or open communities composed of individuals focused on solving a particular problem or developing a particular aspiration. The navigation between neighborhoods is fluid to facilitate cooperation and some individuals do travel from one to the other with frequency.

Like small towns, some communities overlap, and borders become diffuse. Like small towns, utilities and resources are shared for the common good. Like small towns, some individuals or communities are more involved and gain prominence. Finally, like small towns, there is one unifying guiding body of governance: the DANO.

The DANO is the beating heart of Angel Protocol. It unites the deep, boots on the ground, work of charities of the network, and the capital captured by the allure of Angel Growth Funds, creating a powerful social impact ecosystem.

# AN ECOSYSTEM FOR IMPACT-DRIVEN COMMUNITIES

Over 160 charities joined Angel's mission in the last 12 months to provide cost-free perpetual endowment accounts equipped to receive and manage cryptocurrency. This created a shift in what the potential ceiling for the intersection of web3 and impact can be, and on what timeline. We have effectively created an impact loop, a base layer of programmed impact, and a perpetual redirection of web3 wealth creation to organizations working for global change.

Funds flow into our protocol-owned endowment (the "AP Endowment") from multiple sources such as Angel Alliance pledges, the protocol's treasury, and Angel Protocol cross-chain validators. Downstream, funds are coordinated for distribution through governance proposals across our expansive network of global nonprofits and to incubate and fund social impact based ventures. By connecting the two pipelines of capital flow and the impact community, we provide a unique product market fit to build, coordinate, and mobilize around Angel Protocol's tech stack.

As the AP Endowment grows we can be more ambitious in the amount of funding directly given to nonprofits, and provide increased access and unique funding opportunities for social innovation projects at scale. Stewardship and guidance of this magnitude is important and we hope to build and iterate on a meaningful reputation system to guide decision making. Below are our foundational thoughts that we will actively build on and refine with feedback and across implementation cycles.

## PRINCIPLES OF REPUTATION:

- A verified digital identity that is non-transferable and cross-chain
- Zero cost of entry to build reputation and no resale value
- Cooperative buy-in model where increased reputation expands decision making powers
- Does not dilute value of \$HALO through token inflation
- Transparent rules and expectations in how to earn and grow reputation, serving as an on-boarding mechanism (quadratic trust on multiple channels)
- Dynamic and regularly updated to prevent concentration of power to early contributors (including decay)

## IMPACT OF REPUTATION:

- This evolving reputation corresponds with greater levels of decision making within Angel Protocol including;
- Increased signaling and curation weighting for Charity Marketplace distributions (represented by our first iteration of locked Charity Shares)
- Laddered up voting weightage in governance decisions and use of community funds
- Quantifiable metric as a factor while electing Board of Directors
- Eligibility for DANO governance positions

# AN ECOSYSTEM FOR IMPACT-DRIVEN COMMUNITIES

## POINT SYSTEM

Positive sum activities on our platform can be defined as any activity that increases TVL, increasing the AP Endowment and funds to charity and impact ventures. We've expanded the options for altruism, as all activities within our ecosystem amplify our impact loop.

We will start with a tiered points system based on predefined value-additive actions.

- There are no caps on the total points that a unique wallet can accrue
- Point tables are voted on quarterly

### (Preliminary)

**TIER 1** (minimal range points): social media signaling and engagement, stake and lock \$HALO, charity referrals, stake to an Angel Protocol validator, donate to a charity

**TIER 2** (middle range points): Angel Alliance participation, open an AGF, governance participation

**TIER 3** (maximum range points): Create a social impact focused AGF including Charity Endowments, open-source code enhancements, and Angel Protocol DANO activity\*

\*As Angel Protocol moves to a truly decentralized ecosystem; Board of Directors will control strategic planning and budgeting. To coordinate and maintain agility, this vision will be broken into working group DAOs with their own set of outcomes-based reputational scoring systems. We are inspired by SuperteamDAO's reputation approach, providing a fixed amount of reputation points per DAO working group with a 1 - 5x multiple based on importance and intensity. Point allocation is collectively determined by members at the onset and recognized after the deliverable is finalized.

Our point system is designed to sustain an ecosystem of innovation and impact. With reputation as a useful metric while voting on the Board of Directors, Tier 3 activities are deemed the most valuable. This enables active social innovators greater opportunity to act as elected ethical stewards in ongoing protocol-wide governance decisions.

While reputation is immutable and tied to wallet addresses, additional milestone based NFT collectibles will be unlocked in increasing degrees of rarity. These collectibles can be used to signal reputation, auctioned for charitable purposes, or sold on a secondary marketplace. They will also unlock access to gated governance focus groups as needed.



# \$HALO: TOKENOMICS & GOVERNANCE - UPDATE

The rationale behind the introduction of a utility token in the design of Angel Protocol is threefold:

- **We believe that DAOs are more aligned with our ethos than centralized structures.** Governance tokens provide the fantastic opportunity to directly involve key stakeholders in the construction and development of the protocol: charitable organizations, donors and passionate supporters.
- **A token enables us to get charities closer to their supporters.** We transform the one-sided donation transaction into a much deeper and more durable relationship between a charity and the people that care about them.
- **Incentive alignment creates a flywheel for social impact.**
  - At each donation, donors receive a staked charity share of the charity recipient of their donation, entitling them to a share of the charity's endowment yield, encouraging them to spread awareness to more donors.
  - Charities benefit from staking as it signals curation for a charity, raising their visibility and encouraging them to be engaged and transparent with their communities to attract more stakers.

## GOVERNANCE: THE DANO (DECENTRALIZED AUTONOMOUS NON-PROFIT ORGANIZATION)

Governance plays a central role in the vitality of Angel Protocol. The DANO ensures that donor funds are safely passed on to charities and, in the case of [UN Sustainable Development Goals](#) aligned Indexes, that the donations are distributed equitably and predictably among charities.

The DANO must operate with the utmost transparency and accountability, as would be expected from any charitable organization. To accomplish this, all DANO governance happens on-chain, eliminating opportunities for fraudulent activities.

The DANO has a structure inspired by charitable organizations. A Board of Directors is elected on-chain by token holders for a set term. The role of the Board of Directors of the DANO is to provide strategic guidance, settle arbitration, and nominate officers who will be responsible for day-to-day operations.

The Board of Directors oversees the financial aspects of the DANO's operations and publishes annual reports. The Board of Directors is also responsible for creating a charity screening committee to review applications, perform due diligence and validate the charities included in the Indexes.

To take part in the governance of Angel Protocol, token holders stake the DANO's native token \$HALO directly to the charities of their choice, via charity sub-DAOs.

In an effort to ensure \$HALO is held in charitable hands, the primary means of \$HALO distribution will be through bootstrapping charitable giving; when funds are donated to a charity, the donated funds are matched with \$HALO of a proportional value, for both charities and donors.

Stakers of the Angel Protocol \$HALO token have veto power over any of the decisions taken by the Board of Directors mentioned above. In the case where malicious activity is suspected to take place on the network, token holders benefit from special "injunction proposal" rights over any Board Member, Officer, decision, charity or yielding asset, whereby a special procedure is triggered to determine if the proposal is valid and to offer fast arbitration and injunction action if necessary.

At the time of writing, token holders have a direct influence on more than 50 parameters of the DANO and this number can only increase as the governance gains in sophistication.

# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

## STAKING THROUGH CHARITY SUB-DAOS

Each charity benefits from the creation of a sub-DAO. As well as enabling the donor to take part in the governance of Angel Protocol, staking \$HALO through a charity sub-DAO means that charities benefit even further. Generally speaking, more tokens being staked to a sub-DAO equates to:

- Increased visibility on Angel Protocol's Charity Marketplace
- A higher chance to be included in the Charity Indexes
- Capturing a higher portion of protocol fees originating from Angel Growth Funds

\$HALO token holders have exclusive rights to participate in governance decisions for those charities with which they have staked. Such governance

decisions include charity-created proposals and strategic direction.

\$HALO token holders are rewarded with 50% of the fees generated by the endowments of the charities they support by staking. To avoid a concentration of tokens staked to the charities generating the most fees, and to encourage staking to lesser-known charities, we're implementing staking through sub-linear bonding curves and a locking mechanism. More details on this subject are provided in the next section.

Above all, charity sub-DAOs create a privileged space to exchange ideas and organically create a strong sense of community between a charity and its base of supporters.

## TREASURY

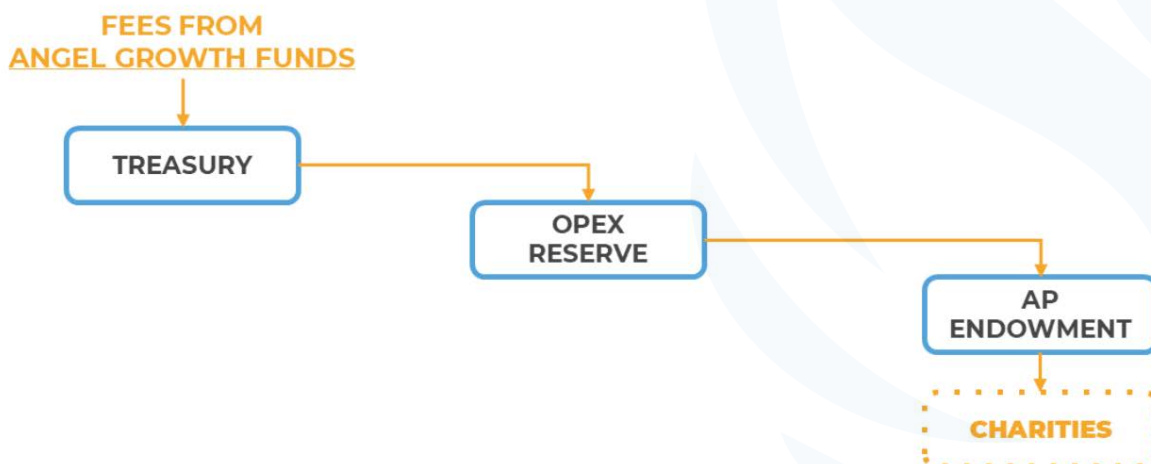
50% of the fees generated by all Angel Growth Funds and Charity endowments are automatically transferred to the Treasury. The remaining 50% is paid-out to stakers & charities through a mechanism described further below.

Fees are then sent to the Opex Reserve account, controlled by the officers of the DANO and designed to cover the costs of DANO day-to-day operations. The budget of the DANO is set on-chain.

Once the Opex Reserve has accumulated enough fees to cover the budget of the DANO, all remaining fees

are transferred to the Angel Protocol Endowment, an Angel Growth Fund owned by the DANO.

The role of the AP Endowment is to collect automated donations from the Angel Alliance as well as other uncategorized donations and distribute them to charities according to a DANO-defined strategy. Collected funds are invested in yield-generating financial products. Like charity endowments, a portion of the yield is distributed and the remainder is re-invested to grow in perpetuity.

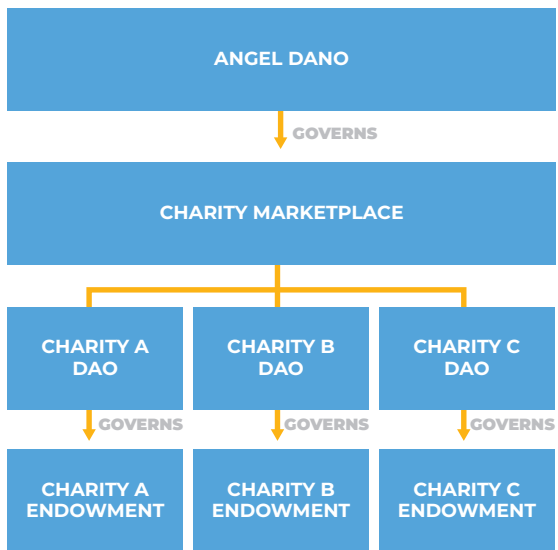


# \$HALO

# AND TOKENOMICS

NOTE: You can [find here](#) a detailed version of the initial paper of our Tokenomics, published by Delphi Digital.

## GENERAL ARCHITECTURE



1

**Angel DANO:** The main governing body of the protocol, responsible for overall protocol governance and regulating incentives among all stakeholders.

2

**Charity Marketplace:** The front-end acting as the front page of charitable giving. Scarce space available for charities on the Charity Marketplace is determined by the Angel community.

3

**Charity DAOs:** Each charity is governed by their respective charity DAO, responsible for charity-level governance decisions.

## TOKEN DESIGN

We set out to design a token that captures value for the main stakeholders of the Angel Protocol ecosystem; namely charities, donors, and stakers. Our goal is to incentivize the actions of curating, donating and governing whilst allowing participants to benefit in the upside as the endowment grows over time.

In order to do this, we've implemented a prediction market style design, borrowing a concept from [The Graph](#): a bonding curve based token curated registry.

At a high level, users can interact with a bonding curve of a particular charity by staking \$HALO tokens into the bonding curve's reserve pool. When they stake, the bonding curve mints the corresponding amount of Charity Shares (CS) for the user based on the pricing algorithm. A rational curator will signal \$HALO toward charities they would like to back, and/or charities they predict will generate the most yield.

Charity Shares can always be exchanged back through the bonding curve for \$HALO tokens in the bonding curve's reserve pool. To prevent gaming of the bonding curve, an unstaking period will be instituted when redeeming \$HALO tokens. This will initially be set at 21 days.

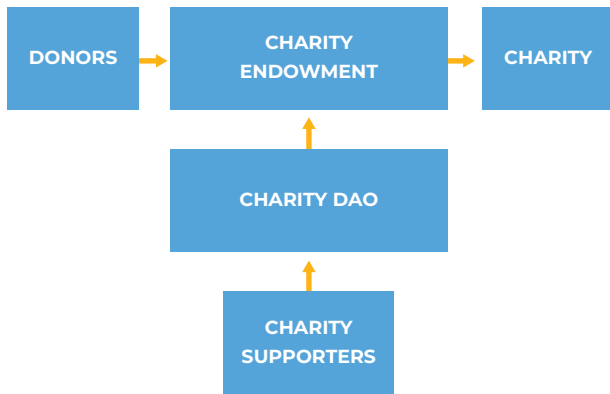


# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

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goal is to incentivize the actions of curating, donating and governing whilst allowing participants to benefit in the upside as the endowment grows over time.



- 1 Donors:** Those who make donations to charities on Angel Protocol
- 2 Charities:** Entities or individuals who receive donations from donors. Charities set up through perpetual endowment accounts which receive donations from donors. These accounts are governed by the Charity DAO.
- 3 Charity Supporters/HALO Stakers:** Those who support charities by staking HALO, participating in curating charities for the charity marketplace and charity indices as well as governance decisions.

## TOKEN CURATED BONDING CURVE MODEL

In order to do this, we've implemented a prediction market style design, borrowing a concept from [The Graph](#): a bonding curve based token curated registry.

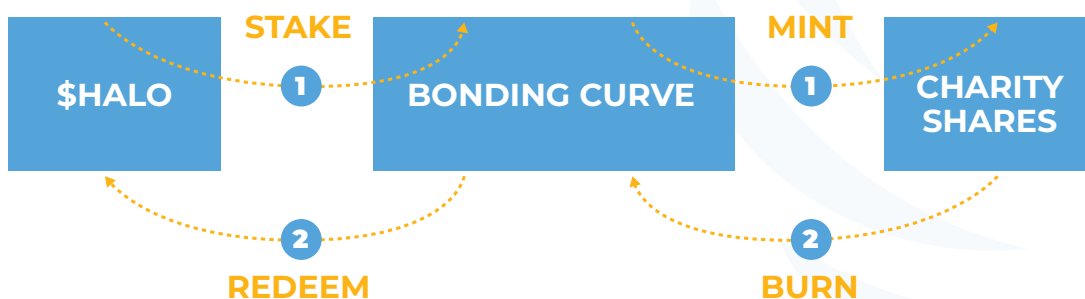
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- 1 Staking HALO Tokens**
  - HALO holders can deposit HALO into a selected Charity's bonding curve in exchange for Charity Shares
  - The ratio of Staked HALO to Charity Shares is determined by a pricing algorithm

- 2 Redeeming HALO Tokens**
  - Charity Shares can be exchange for HALO tokens
  - The number of HALO tokens redeemed per Charity Share is determined by a pricing algorithm



# SHALO: TOKENOMICS AND GOVERNANCE - UPDATE

## TOKEN CURATED BONDING CURVE FORMULA

The bonding curve formula determines the amount of HALO (Price) needed to purchase or sell a Charity Share. As more Charity Shares are minted / in circulation, the price of Charity Shares gets incrementally more expensive in HALO terms. HALO tokens deposited into the bonding curve are kept in a communal pool owned by holders of Charity Shares. A Charity Share can be withdrawn from circulating supply and the corresponding number of HALO tokens will be redeemed in exchange.

For the Angel Protocol, the team adopted the [Bancor bonding curve formula](#):

$$\text{Reserve Ratio} = \frac{\text{Reserve Token Balance}}{\text{Continuous Token Supply} * \text{Continuous Token Price}}$$

**Reserve Token:** Refers to the token staked into the bonding curve, in this case HALO.

**Continuous token:** Refers to the token received in exchange for staking the reserve token, in this case, the Continuous Token refers to the Charity Share.

**Continuous Token Price:** Refers to the cost of Charity Shares in terms of HALO.

**Reserve Ratio:** A fixed ratio between the Charity Share's total value and the total value of HALO in the reserve pool. The Reserve Ratio is constant as the Reserve Token and Continuous Tokens' value fluctuates with sales and purchases.

$$\text{Reserve Ratio} = \frac{\text{HALO Balance}}{\text{Charity Share Supply} * \text{Charity Share Price in terms of HALO}}$$

The Reserve Ratio determines the price sensitivity of the CS. A higher reserve ratio will result in lower price sensitivity, meaning that each buy and sell will have a less than proportional effect on the Continuous Token's price movement. Conversely, a lower ratio will result in higher price sensitivity, meaning that each buy and sell will have a more than proportional effect on the Continuous Token's price movement.

Each purchase or sale of CS triggers an increase or decrease of HALO balance in the pool. The price of the CS in terms of HALO must continually readjust to maintain the fixed Reserve Ratio between them.



# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

## CHARITY BONDING CURVE: PRICING CHARITY SHARES EXAMPLE

The direct transfer of value from charities' endowment fees to token holders through yield creates a situation where token holders could be incentivized to only stake to the largest and richest charities for financial gain.

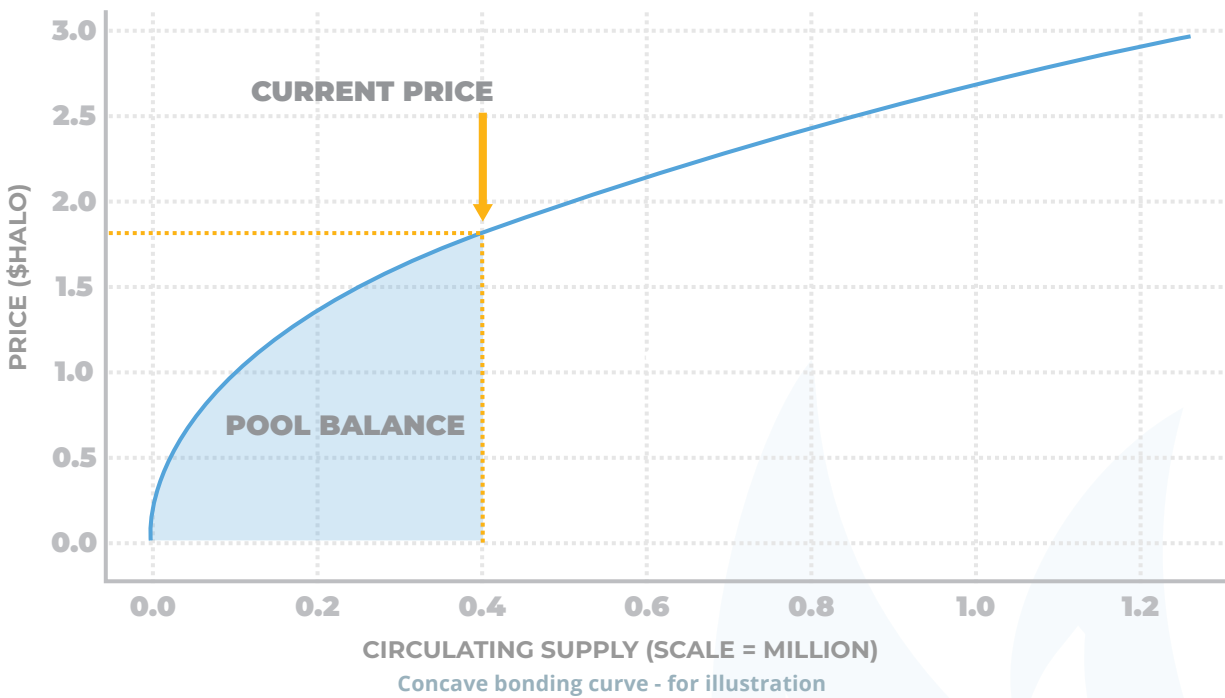
To remedy this situation, the Protocol will use concave (or sublinear) bonding curves. Concave bonding curves reward stakeholders who support charities

early on, while limiting the upside of rent-seeking agents that stake against established charities for pure financial gain.

Should the Reserve Ratio for each charity's bonding curve be set at 70% at genesis, the pricing formula would translate into:

$$\text{Price of Charity Share} = \frac{1}{10,000^{0.7-1}} * \text{Charity Share Supply}^{\frac{1}{0.7-1}}$$

## PRICE OF CHARITY SHARE SUPPLY VS CHARITY SHARE SUPPLY



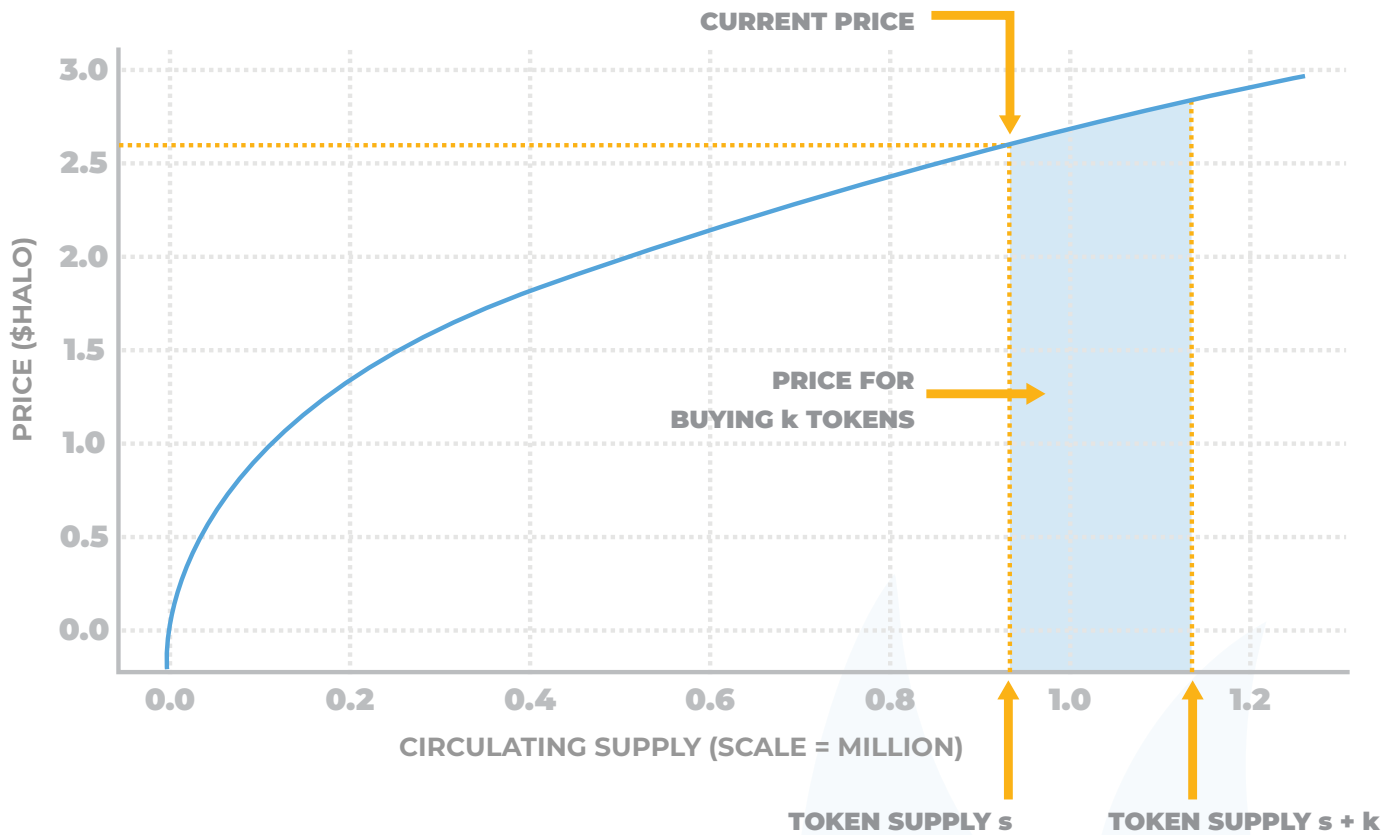
## \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

Integrating the price formula gives the number of HALO needed to mint or redeem a given amount of charity shares. In the diagram below, to buy k charity

shares given a supply of s, one must integrate the bonding curve formula to get the price in HALO for k tokens.

$$\int_s^{s+k} \text{Price of buying } k \text{ Charity Shares} = \frac{1}{10,000^{0.7-1}} * (0.7) * \text{Charity Share Supply}^{\frac{1}{0.7}}$$

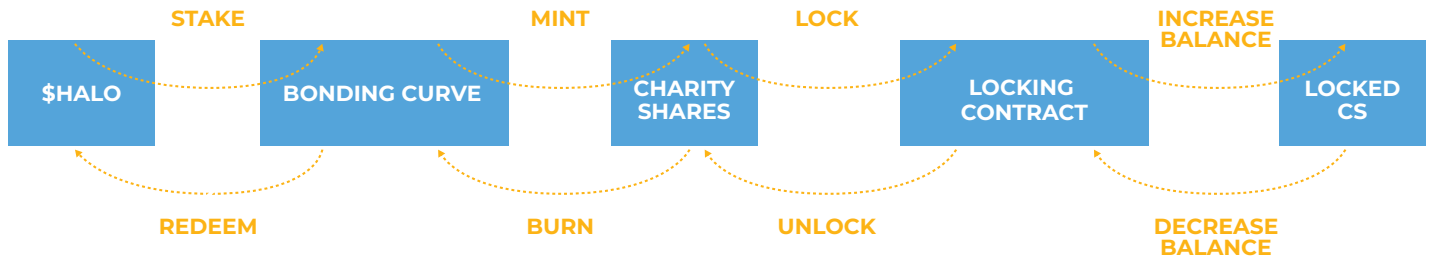
### PRICE FOR PURCHASING k CHARITY SHARES (PRICE IN \$HALO)



# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

## LOCKING MECHANISM

To further discourage mercenary staking and augment the effect of curation, we have implemented the option for charity curators to lock their \$HALO for longer than the default lock period (21-days) and get an increased power of curation in exchange.



### A. LOCKING \$HALO

Locking \$HALO is a two step process that requires depositing \$HALO into a charity's bonding curve and locking the resulting charity shares.

**NOMENCLATURE:** charity shares are denominated CS-#### (#### being the last 4 characters of a charity's endowment address OR an internal code related to the name, like stock names). Users never see this nomenclature, unless they look at balances in their wallet

Locked charity shares are denominated loCS-####, as in "locked charity share".

### THE LOCKING PARAMETERS ARE AS FOLLOWS:

- Minimum: 3 weeks
- Increments of 1 block
- Maximum: 156 weeks (3 years)

Note: Locked Charity Shares are not tradable tokens and exist only as a balance in the locking contract.

**EXAMPLE:** Alicia is a lifetime supporter of 5Gyres and wants to support them as much as she can. She decides to buy 1,000 \$HALO and deposits them into 5Gyres' bonding curve. She gets 500 CS-5GYR in return (due to the effect of the bonding curve). She then locks her CS-5GYR through the locking contract and gets a balance of 1,500 loCS-5GYR

## B. PROPERTIES OF LOCKED CHARITY SHARES

### MULTIPLIER:

Locked charity shares (loCS-charX) provide a multiplier to the weight of the curation provided by staking \$HALO to a charity. This multiplier is equivalent to the duration, in years, for which the tokens are locked for at any point in time, plus one.

**Multiplier = Locking Period (in years)+1**

**EXAMPLE:** One charity share locked for 5 months (0.4 years) provides a multiplier of 1.4 and locking one charity share for 27 months (~2.2 years) provides a multiplier of 3.2.

### DECAY:

Every block, **1/Total estimated number of blocks**, Charity Share tokens unlock and become claimable by the staker. As an effect, the multiplier decreases for the remainder of locked Charity Shares.

**EXAMPLE:** Today, Sophie deposits 1,000 \$HALO into a charity's bonding curve contract and receives 500 Charity Shares in exchange. She decides to lock all of those charity shares for 16.8 months (~7.3 million blocks). Her multiplier is 2.4 (16.812+1). In 3 months (~1.3 million blocks), Sophie will be able to claim 178 Charity Shares and her multiplier will have decreased to 2.1. She can choose to re-lock/re-allocate those Charities Shares again or un-stake them and receive \$HALO back.

### CURATION WEIGHT:

The Curation Weight is the balance of locked charity shares of any given \$HALO staker, defined as the total sum of the product of \$HALO to time locked remaining:

$$Curation\ Weight_{Staker\ X,\ Charity\ A,\ t} = \sum_i \#(HALO)_i \times multiplier_{i,t}$$

### EXAMPLE:

2 months ago, Alicia locked 1,000 CS-charA for 7 months into Charity A's bonding curve. 1.5 months ago, she locked 1,000 CS-charA for 11 months. One month ago, she locked 1,000 CS-charA for one month. Today, she locked 1,000 CS-charA for 12 months. Her Curation Weight is calculated as follows: 3.2.

$$\begin{aligned} & 1,000 \times \left(\frac{7}{12} + 1 - \frac{2}{12}\right) = 1,000 \times \left(\frac{5}{12} + 1\right) = 1,417 \\ + & 1,000 \times \left(\frac{11}{12} + 1 - \frac{1.5}{12}\right) = 1,000 \times \frac{9.5}{12} = 1,792 \\ + & 1,000 \times 0 = 0 \text{ (unlocked charity shares are not counted)} \\ + & \underline{1,000 \times \left(\frac{12}{12} + 1\right) = 2,000} \\ = & 5,209 \end{aligned}$$

Alicia's Curation Weight for Charity A is **5,209**

Alicia's Curation Weight for Charity A is **5,209**

### RE-ALLOCATION:

Every 21 days, stakers have the right (but not the obligation) to re-allocate their locked charity shares to another charity.

This right is not cumulative, i.e., if a user did not exercise their right during the last 21-day period, they are not granted 2 rights to re-allocate their locked charity shares and can only reallocate charity shares granted during that period.



# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

## B. PROPERTIES OF LOCKED CHARITY SHARES (CONT'D)

### GOVERNANCE RIGHTS:

Voting weight in the DANO provided by locking to charity A for any given staker is determined by the sum of CS-charX and loCS-charX held by the staker, divided by the sum of all CS-charX and loCS-charX

$$Voting\ Weight_{(Staker\ X,\ Charity\ A)} = \frac{CS-char_{(Staker\ X,\ Charity\ A)} + loCS-char_{(Staker\ X,\ Charity\ A)}}{\sum_k (CS-char_{(Staker\ k,\ Charity\ A)} + loCS-char_{(Staker\ k,\ Charity\ A)})}$$

By extension, the network voting weight of any given staker is provided by the sum of this staker's voting weights across all charities they've staked to, divided by the total number of \$HALO staked:

$$Voting\ Weight_{(Staker\ X)} = \frac{\sum_i (\frac{CS-char_{(Staker\ X,\ Charity\ i)} + loCS-char_{(Staker\ X,\ Charity\ i)}}{\sum_k (CS-char_{(Staker\ k,\ Charity\ i)} + loCS-char_{(Staker\ k,\ Charity\ i)})} \times HALO_{Charity\ i})}{Total\ Staked\ HALO}$$

#### EXAMPLE:

Charity A's bonding curve has a \$HALO reserve of 60,000.

Charity A has a total balance of 40,000 locked charity shares with an average multiplier of 2.0 and 10,000 unlocked charity shares.

Cassandra has a Curation Weight of 6,000 for Charity A thanks to her 2,000 locked charity shares (multiplier of 3.0). She also owns 1,000 unlocked CS-charA.

Cassandra controls 14% **(6,000 + 1,000)/(40,000 + 10,000)** of the voting power of charity A, or the equivalent of 8,400 \$HALO, an increase of voting power of 2.8x over her 3,000 original charity shares, thanks to the locking mechanism. 3.2.

#### EXAMPLE:

Charity A's bonding curve has a \$HALO reserve of 60,000. Charity B's bonding curve has a \$HALO reserve of 50,000. Charity C's bonding curve has a \$HALO reserve of 40,000. There are no other charities on the network. Total staked \$HALO is 150,000.

Cassandra has a voting weight of 14% for charity A, a voting weight of 2% for Charity B and a voting weight of 6% for Charity C.

Cassandra's voting power is equivalent to **11,800 \$HALO (0.14 x 60,000 + 0.02 x 50,000 + 0.06 x 40,000)** and her voting weight across the network is **8% (11,800/150,000)**.

## C. UNLOCKING & UNSTAKING

**NEVER-LOCKED CHARITY SHARES:** charity shares that have never been locked are subject to a 21-day unstaking period upon user's request to unstake.

**LOCKED CHARITY SHARES:** Once locked charity shares unlock, they are available for the user to unstake at any time, with no unstaking period.

**RAGEQUIT:** stakers have the possibility to unlock their charity shares at any point in time incurring a penalty of 50%. When the Ragequit mechanism is used, the user gets \$HALO.

### EXAMPLE:

A month ago, Theresa bought 1,500 \$HALO and staked them to Charity A. She obtained 1,000 charity shares of Charity A in return. She locked 900 of her charity shares for a year.

### TODAY:

Theresa has 100 charity shares that she never locked. If she decides to unstake them to get \$HALO, she has to wait a 21-day unstaking period.

Theresa has **75 (900/12)** unlocked charity shares. She can unstake them to get \$HALO at any time.

Theresa has 825 locked charity shares for 11 more months. She can unstake them today with a 50% penalty. If the price of Charity A charity shares is 1.5 \$HALO and Theresa unstakes 400 of her charity shares through Ragequit, she would receive 300 \$HALO

**(400 X 50% X 1.5)**

Charity Shares resulting from the Ragequit penalty are burned, resulting in increased charity shares value for remaining stakers & charities.

## THE CURATION SCORE

### A. USES OF THE CURATION SCORE

The Curation Score is used to determine, of all the charities, which ones should be entitled to i) higher visibility on the Charity WebApp, ii) automated donations and iii) share of rewards corresponding to 50% of the fees generated by Angel Growth Funds (hereinafter the "**Extra Rewards**"):

#### 1. HIGHER VISIBILITY ON THE CHARITY WEBAPP

The Curation Score determines which charities are included into SDG indexes. The 17 SDG indexes are composed of 10 charities each. On each SDG row of our charity marketplace results are displayed by decreasing order of Curation Score.

#### 2. AUTOMATED DONATIONS

One SDG index at a time is considered "active", i.e. it receives automated donations coming from the Angel Charity Alliance members (incl. LFG). Once a monetary threshold of donation amounts has been reached, the next index becomes active and starts receiving automated donations.

#### 3. EXTRA REWARDS SHARE FOR STAKERS

See section "Extra rewards share for stakers" below.

### B. CHARITY WEIGHT

A Charity Weight is the Sum of the Curation Weights of all its stakers:

$$Charity Weight_{Charity A} = \sum Curation Weights_{Charity A}$$

### EXAMPLE:

Charity A has 3 stakers: Sophie, who staked 1,000 \$HALO with a Curation Weight of 1,000. Alicia, who staked 4,000 \$HALO with a Curation Weight of 5,209 and Jesse, who staked 10,000 \$HALO with a Curation Weight of 3,791.

Charity A has 15,000 \$HALO deposited in its bonding curve and a Charity Weight of **10,000 (1,000 + 5,209 + 3,791)**.

## C. CURATION SCORE

The Curation Score of any given charity is the Charity Weight (or total balance of locked charity shares) + the total number of unlocked charity shares, divided by the TVL of its endowment.

$$\text{Curation Score of Charity A} = \frac{(\text{Total number of loCS in Charity A} + \text{Total number of CS in Charity A})}{\text{TVL}_{\text{Charity A}}}$$

### EXAMPLE:

Charity A has a Charity Weight (or a balance of loCS-charA) of 10,000 and 5,000 unlocked CS-charA. It has a TVL of 150,000 \$UST. Charity's A Curation Score is 0.1.

## D. INTERPRETATION

The Curation Score has been designed with two objectives in mind:

1. Highlight those charities that have a high number of engaged supporters through the Charity Weight as numerator
2. Mitigate the impact of significant sized endowments capturing the majority of Angel Alliance funds, as it is assumed that a large amount of stakers will naturally flock to them as, similarly to LP positions, only large charities will be able to accommodate yield for many stakers.

A high Curation Score means that a charity overwhelmingly benefits from the support of many engaged, locked stakers that are willing to accept a lower APY because they support the charity (or financially-oriented stakers that believe in the growth potential of the charity), which is a positive signaling for the purpose of curation.

A balanced Curation Score (i.e. assuming a balanced number of stakers accepting the expected market risk under efficient market conditions) means that a charity does not attract overwhelming interest (or financially-oriented stakers that do not make outsized bets in the growth potential of the charity), which is not positive signaling for the purpose of curation.

### CONCLUSION:

Charities with the highest curation score should benefit from special highlighting on the platform & automated donations.

# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

## EXTRA REWARDS SHARE FOR STAKERS

### A. PURPOSE AND ORIGIN OF FUNDS

The purpose of the Extra Rewards for stakers is to incentivize curation by providing additional rewards to stakers, in addition to the share of the charity fees they are entitled to as stakers.

### The Extra Rewards are collected from all Angel Growth Funds.

Angel Protocol collects a fee, set at 20% of yield generated, 50% of which is sent to the Angel Protocol Treasury. The other 50% are sent to a smart contract that is used to distribute the Extra Rewards to \$HALO stakers that have locked their charity shares.

### B. DISTRIBUTION

#### 1. DISTRIBUTION TO STAKERS

The Extra Rewards are directly distributed to stakers according to their total loCS balance:

$$\text{Extra Rewards}_{\text{Staker } X} = \text{Extra Rewards} \times (1 - CC) \times \frac{\sum_k \text{Curation Weight}_{\text{Staker } (X,k)}}{\sum_{i,k} \text{Curation Weight}_{\text{Staker } (i,k)}}$$

#### EXAMPLE:

Alicia has a Curation Weight of 5,209 for Charity A, a Curation Weight of 3,791 for Charity B and a Curation Weight of 1,000 for Charity C.

Charity A has a Charity Weight of 40,000, Charity B 30,000, Charity C 20,000 and Charity D 10,000. There are no other charities on the network.

Then:

	Charity Weight	Curation Weight
Charity A	40,000	5,209
Charity B	30,000	3,791
Charity C	20,000	1,000
Charity D	10,000	
<b>Total</b>	<b>100,000</b>	<b>10,000</b>

**Alicia's share of extra rewards: 10%**

**NOTE:** It might be useful to remind the reader that **Curation Weight**<sub>Staker (X, A)</sub> means the balance of locked Charity A charity shares held by staker X at any point in time and that **ΣCuration Weight**<sub>Staker (i,A)</sub> means the total balance of locked Charity A charity shares held by all stakers to Charity A at any point in time.

# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

## 2. CHARITY COMMISSION

In order to make charities benefit from the locking mechanism and introduce a direct correlation between the number of charity shares staked and extra revenue for a charity endowment, we have introduced a "Charity Commission" of 20% on all amounts of Extra Rewards distributed to charity shares lockers.

### SUMMARY:

#### Rights granted by locked and unlocked charity shares

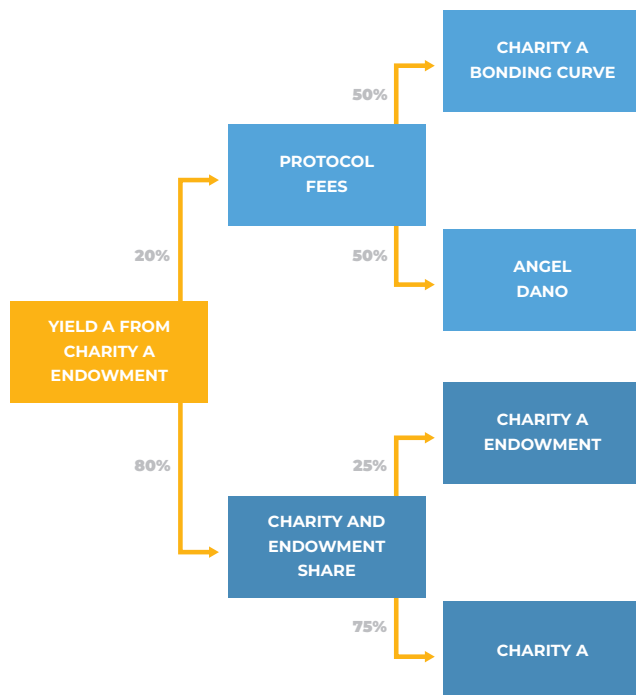
The rights provided by locked and unlocked charity shares are summarized in the table below:

	Charity Endowment Fees Share	Extra Rewards Share	Charity Endowment Governance	DANO Governance
Locked Charity Shares	YES	YES	YES	YES
Unlocked Charity Shares	YES	NO	NO	YES

## VALUE FLOWS

Yield to stakers is distributed via buyback and deposit of \$HALO into the bonding curve. The corresponding CS obtained will be burnt, accruing value to existing charity shareholders as they can now redeem more

\$HALO per share. Additionally, the burning of CS tokens effectively increases the floor price of the bonding curve, de-risking staking to a degree



1

#### Charity A Stakers via Bonding Curve

- \$HALO is bought on the open market and deposited into Charity A's bonding curve in exchange for Charity A's shares.
- These shares will be burnt, accruing value to outstanding Charity A share holders

2

#### Angel DANO

- To the DANO's Treasury waterfall

3

#### Charity A's Endowment

- Reinvested into the Charity A's endowment to increase the principle amount, promoting the sustainability of interest cashflows in the long run

4

#### Charity A

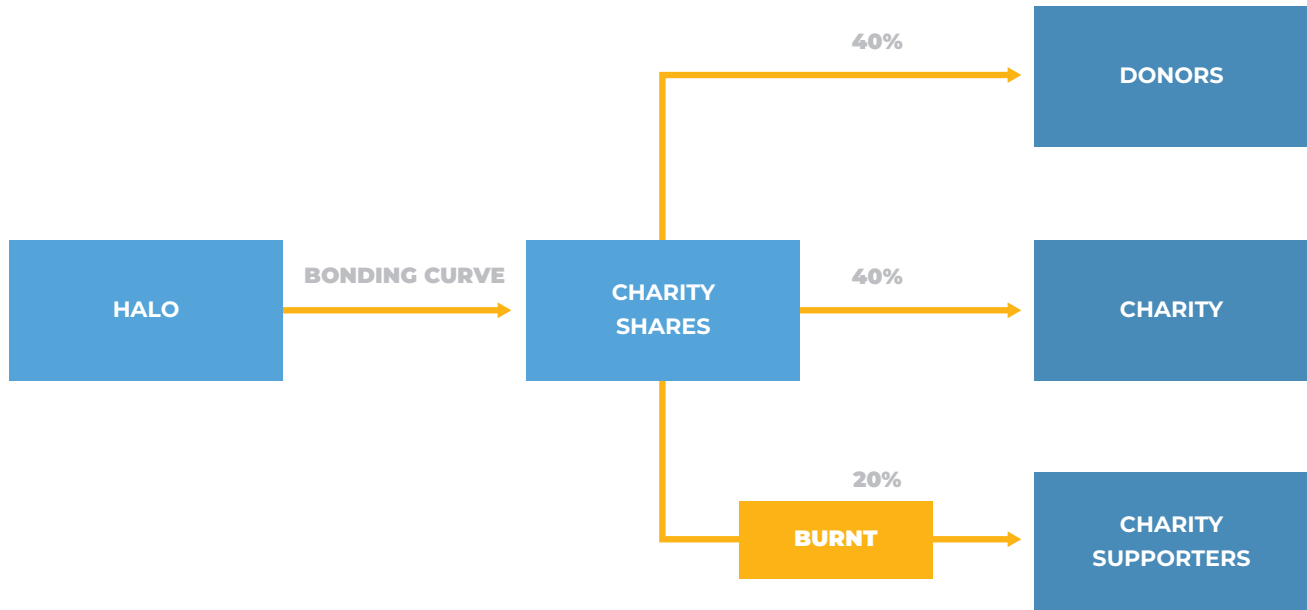
- Majority of the yield is distributed to Charity A

# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

## LIQUIDITY MINING PROGRAM / DONATION MATCHING

We propose an incentive program with the objectives of bootstrapping usage of the platform, growing donations and TVL in the bonding curve, and encouraging broad distribution of the token to key stakeholders.

To bootstrap charitable giving, donations through Angel Protocol will be matched with the proportional value of \$HALO and deposited into the charity's bonding curve.



- Unlike most liquidity mining programs where rewards are released pro-rata per block, SHALO rewards are deposited into the bonding curve as often as donations come in.
- A portion of charity shares received will be distributed to the Charity and Donors, while a portion will be burnt, indirectly benefitting early stakers

- 40% of Charity Shares minted will be distributed pro-rata to donors, with a lock up of 21 days.
- 40% of Charity shares will be distributed to the charity and periodically disposed.
- The remaining 20% will be burnt, benefitting early stakers who now have the option of exchanging their Charity Share for more HALO than before



## \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

### DISPOSAL OF CHARITY SHARES FOR CHARITIES

As charities might not have experience dealing with crypto tokens and protocols, the disposal and monetization of charity shares received from the liquidity mining program will be done programmatically by a smart contract. The proceeds from the disposal of charity shares will be reinvested to the Charity's perpetual endowment account, for further yield generation.

- Charity Shares distributed to the charity via the rewards distribution program from the liquidity mining program will be staked into the Charity's bonding curve.
- Charity Shares will be disposed of, provided that certain conditions are fulfilled.
- Eligible Charity Shares will be unstaked and converted into HALO, and HALO will then be converted into stablecoin and sent to the Charity's endowment account

### CONDITIONS FOR DISPOSAL :

- The average 'cost' price of the charity shares will be calculated periodically
- If the price to dispose the Charity's CS is 10% above the previous period's average cost price, up to 10% of charity share tokens the charity holds will be disposed of
- E.g. If disposing 5% meets the profit requirement but 10% does not, then 5% will be disposed of instead. However no more than 10% of the CS can be disposed per period

These conditions are set in place to prevent "dumping" on stakers in the bonding curve, while also allowing charities to benefit from the liquidity mining program.



# \$HALO: TOKENOMICS AND GOVERNANCE - UPDATE

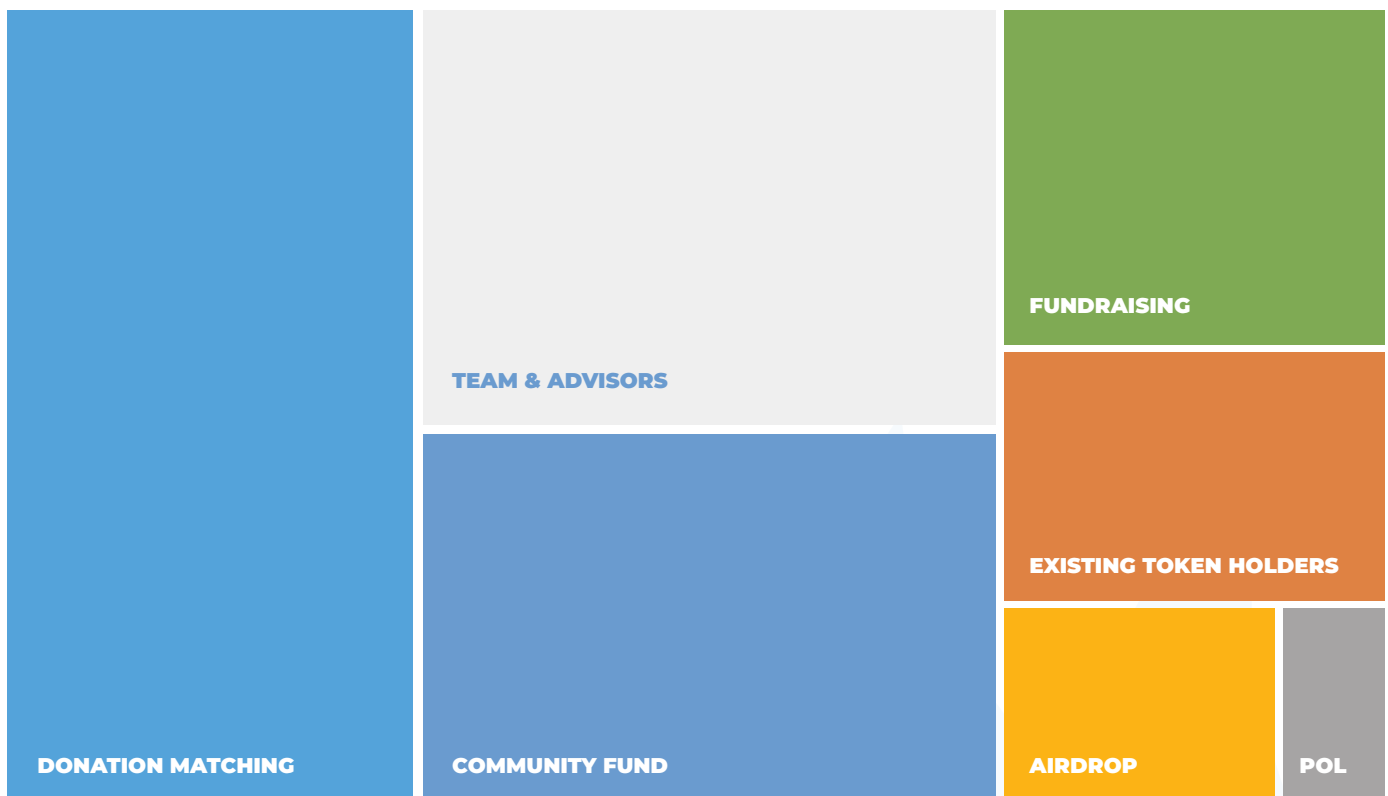
## TOKEN DISTRIBUTION

We minted one billion \$HALO tokens during our Terra Token Generation Event in December 2021. Today, the circulating supply is 64 million \$HALO (6.4% of total supply), with 23.5 million \$HALO tokens being controlled by the protocol, making the circulating supply out of the DANO's control only 40.5 million tokens (4.0%). An additional 50.5 (5.1%) million sold during token farming events are vesting until December 2022.

We have taken a snapshot of Terra \$HALO holders before \$UST started depegging. We will mint a billion new \$HALO tokens on the new chain and airdrop new \$HALO to those Terra \$HALO holders who claim their tokens on the new chain.

The distribution of new \$HALO tokens is indicated in the diagram below.

### \$HALO SUPPLY: 1 BN TOKENS



**DONATION MATCHING PROGRAM: 30% OF TOTAL SUPPLY:** Released as donations come in with the donations matching mechanism. We have projected that the distribution would occur over a number of years. A portion of allocated tokens will be rewarded retroactively to donors that have used the platform prior to the implementation of the donation matching mechanism.

**COMMUNITY FUND - 20% OF TOTAL SUPPLY:** 25% unlocked every year, released as necessary to foster community incentives and provide grants to projects wishing to build on Angel Protocol.

**TEAM - 20% OF TOTAL SUPPLY:** Daily vesting at a rate of 0.11% per day over a period of 30 months after a 6-month cliff (36 months vesting total). Tokens start vesting on July 1st, 2022

**STRATEGIC ADVISORS - 2% OF TOTAL SUPPLY:** Daily vesting at a rate of 0.11% per day over a period of 30 months after a 6-month cliff (36 months vesting total). Tokens start vesting on July 1st, 2022

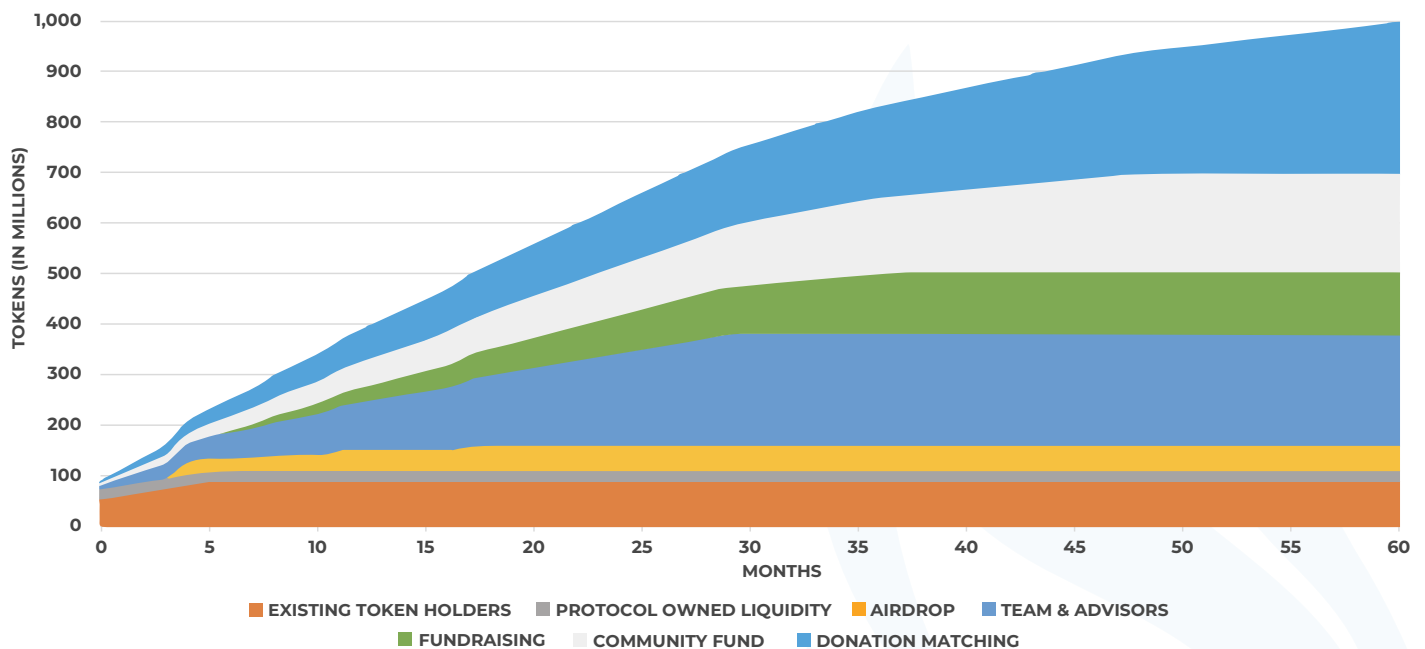
**FUNDRAISING - 12% OF TOTAL SUPPLY:** Comprised of our remaining initial token allocation. All tokens are reserved for sale in this new financing round.

**EXISTING TOKEN HOLDERS - 9% OF TOTAL SUPPLY:** Comprises the current circulating supply (4%) and the previous token sale allocations currently vesting (5%).

**AIRDROP - 5% OF THE TOTAL SUPPLY:** As customary in the Terra ecosystem, our aim was to distribute liquidity via airdrop to \$LUNA and \$ANC stakers, as well as an additional bonus for addresses that had staked through the Angel Protocol validator. The airdrop was subject to milestones. [More details here.](#) We will honor the airdrop but will introduce a rapid decay (3 months) for unclaimed \$HALO.

**PROTOCOL OWNED LIQUIDITY (POL) - 2.0% OF THE TOTAL SUPPLY:** \$HALO reserved to provide liquidity. To be matched with raised USD, sold through a bond mechanism like [Olympus Pro](#) or making use of innovative protocols like [Rift Finance](#).

## TOKEN RELEASE SCHEDULE



KEEP IN TOUCH



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