Wynd Whitepaper
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1. Overview

1.1 Introduction

The Wynd DAO will leverage blockchain protocols to protect and regenerate the world's ecosystems

As we enter the year 2022, every living soul on this planet can see and feel the drastic changes happening around the globe. Humans are the most intelligent species and hence can observe, calculate and deduce the cause-effects on a larger scale. Irrespective of education, degree and skills, every human on this globe can see the damage to the environment, the deterioration in climate conditions, and the increasingly extreme weather conditions. We have large scale fires, frequent storms and only 50-60 crop cycles remaining on the global scale.

We strongly believe that the current sad and grim state **can** be changed and transformed into a harmonious state. However, this can't be done until we awaken and are compassionate towards nature and all its creatures, and then *align our actions with our beliefs*. Unfortunately, most people who awaken to the need to reverse the damage to our planet are left feeling helpless.

We realize that we can't rely upon a few people sitting in governments to take actions to bring a sustainable ecology to this planet; that all current economies are fundamentally based on increasing exploitation of "natural resources"; and that "lifestyle changes" like eating organic or donating to the WWF are far too small to turn the tide. Yet, what can we do?

Bringing forth a truly sustainable future requires everyone, or at least a large majority of people, to be involved in the process. Until recently, there have only been two successful approaches to large scale organization: hierarchical systems like governments and large corporations, and competitive games that exhibit emergent behavior, like market economies. Horizontal organizations, like coops, often show increased efficiency and democratic participation in the areas they have been applied, but have worked well only at relatively small scales.

What's revolutionary?

Wynd sees the potential of blockchain technologies to engender new forms of large-scale collaboration toward positive, life-affirming futures. Cryptoeconomics and mechanism design allow projects to create new competitive games with different emergent behavior than market economies. DAOs are in their infancy, but have already shown great potential enabling large groups with a common purpose to quickly form and take collective action.

Wynd uses technology to bring awareness and visibility to all humans about their surrounding environment and put true value on it. We provide a platform to make them an active contributor, not just limited to the scope of WYND or any one organization, but in the immense scope of life itself. We seek to achieve harmony between nature and technology while rewarding everyone who has put their skin in the game in any form under this belief system.

Wynd views itself as part of the [ReFi movement](#) and aligns with the general vision of the [Green Pill Party](#). We also build upon years of experience in real-world, offline collectives and horizontal governance. Some of us have been working on mechanisms to go [beyond coin voting governance](#) for years, both in theory and in implementation. And take inspiration from decades of ideas, best summarized in [Buckminster Fuller's World Game](#):

> *"Make the world work, for 100% of humanity, in the shortest possible time, through spontaneous cooperation, without ecological offense or the disadvantage of anyone"*

WYND strongly believes and is committed to build a better, healthy world with the current technology which is web native/scale; building infrastructure, tools and services around that to support and enhance the entire ecosystem. This enables everyone to have some learning and role to contribute for a better world as a whole rather than just limiting it to an individual's benefits.

1.2 Wynd DAO Pilars

Wynd DAO is a revolutionary approach to solve the climate problems. It will achieve the vision via 4 main pilars:

1. Instead of relying upon agencies and carbon credit organizations bringing in months old data for the state of our planet, Wynd is using satellite data for bringing in near real time data about gases like: carbon-monoxide, sulphur, etc. This brings more awareness and visibility on the state of any person's surrounding state of environment, and allows us to offer incentives based on *real, measurable impact*. For now, only *air* quality is being targeted but plans to include *water* and Soil (*earth*) current state also is planned & possible. Wynd is targeting to build a set of crucial environmental data oracle services and hence enabling other dapps too to build products and services based on the real world data. We are working on a collaboration with Regen Network for the Environmental Oracles.

Example 3d-Visualization of Carbon Monoxide Concentrations

2. Current state of human perception on growth is based on what's valued in the market. Yet these values are constantly manipulated by marketing and don't account for "externalities", such as clearcutting forests. Wynd is an attempt to fill the gap by re-attaching true value to the "market" by using Web3 tools and Technologies. The Wynd DAO will design new mechanisms and DeFi primitives to make this connection, inspired by a Hackathon project on environmental futures. This helps in building a market where constructive deeds are rewarded and destructive manipulations are penalized by the market itself.

3. Wynd DAO will use the success of blockchain and web3 tools in terms of transparency, scalability, network effect and global reach for enabling and empowering on-ground communities working on environmental causes to achieve growth and support. Wynd DAO will make active efforts to make the work of these on ground communities to reach not just on-chain but also visually. Wynd DAO will eventually enable transparency over Impact Investments and Philanthropy contributions, thus attracting larger masses and making the funds create its true, verifiable impact.

4. Wynd DAO will also be involved in NFTs and mini-games in order to reach larger masses and especially younger generations because these are the humans who will be handling more responsibility in coming years. Wynd DAO will be utilizing NFTs / Mini-Games / Badges for educating the people with sustainable environment tools, techniques, activities, opportunities under learn-to-earn, contribute-to-earn models.

Join the Wynd DAO to co-create a new economy where earning money and protecting the environment go hand in hand. Where collaboration and participation, not competition and passivity, are the order of the day.

1.3 Wynd Roadmap 2022

The Wynd Foundation has designed the following roadmap to launch the Wynd DAO and help nurture it. As the Wynd Community grows and the Wynd DAO becomes active, it may undertake

many more actions, which we cannot not yet plan for. Consider this a basic outline of our direction, and a starting point for the Wynd journey, not a complete guide:

Early June: Airdrop Tokens

The Wynd Foundation will create the $WYND token on the Juno network and airdrop it to many active participants in the Cosmos ecosystem. You can read the full airdrop rules below. There is no pre-sale and the foundation and team maintain a reasonable portion to help guide and grow the protocol.

After the Airdrop, the Wynd Foundation will work to establish a solid liquidity pool in a Cosmos AMM to provide stable price discovery for the $WYND token.

End June: Launch Wynd DAO

Once much of the airdrop has been claimed and we have established a large community of token holders, we will launch the Wynd DAO. This will build on the DAO-DAO software with heavily customized staking rules. A DAO is not just a voting contract on the blockchain, but a community that must engage in informed discussion and healthy debate. Along with the on-chain elements, we will build up off-chain forums for the community to form and generate ideas.

Early Q3: Wynd Auto-Compounder

One of the visions of Wynd is environmental DeFi, harnessing the income of DeFi and directing it to environmental purposes. The Wynd Foundation will build out a simple application to provide some initial revenue for the Wynd DAO and serve as inspiration for future protocols.

The Auto-Compounder is basically a fund manager. You can send your $JUNO to the auto-compounder and it will stake them on your behalf, reinvesting all rewards every day in order to safely provide you higher APY without any extra work. We will also use various optimizations to provide shorter unbonding periods in normal market conditions. This should provide the best and safest staking experience for $JUNO holders and in return, it will take a 5% cut of the withdrawn rewards to fund the Wynd DAO.

Q4: Wynd Oracles

One of the fundamental pilars of Wynd is using satellite data to bring near real time environmental data to the blockchain. Once the data is available, it can be the basis for many protocols. However, it is a long slope to get there.
In order to support the whole ecosystem, the Wynd Foundation will provide grants to build out this infrastructure for the common good, with the intention that the Wynd DAO, as well as other ReFi projects, will launch products that will utilize it.

2. Tokenomics

2.1 $WYND Token

The foundational layer of the project is the $WYND token, which is minted by the protocol. This token will serve as a governance token for the Wynd DAO.

While designing the tokenomics, we spent time to make this token sustainable, not just environmentally, but also financially. We do not want to repeat the mistakes of [Klima DAO](#), which tried to contribute to the environment, while replicating [Olympus DAO's Ponzi-omics](#). (Look at 1-year graphs to see what I mean).

We would rather "slowly" grow 3x over 1 year, then make a 100x in 2 months just to loose it all in the following 2 months. We feel $OSMO and $JUNO are better models of a growth curve to aim for.

We accomplish this by providing real value to the Wynd DAO (governance backed by real projects, which drive long-term value), and by slowly increasing the liquidity via vesting rather than a huge dump of liquid tokens to start with. We also feel 3-digit APRs are inherently unsustainable and the Wynd DAO will focus on longer-term incentives for HODLers not for yield farmers.

2.2 Token Distribution

WYND belongs to the people, not to wealthy VC firms. That is why we have decided not to do any private sales or investment rounds at all and rather self-fund the project to launch. We will make a fair distribution of all genesis $WYND tokens without any renumeration in return.

At genesis, there will be 108 million $WYND tokens.

Of these tokens, we will distibute them as follows:

- 20% Wynd Foundation
- 15% Development Team
- 65% Airdrop

Yes, almost two-thirds of the total token supply will be fair-dropped on active Cosmos citizens! We have also worked hard on a design that is difficult to game and fairly distributes among real citizens, and look forward to encouraging a vibrant and active community around the Wynd DAO.

The Wynd Foundation is a registered BVI Entity and will be issuing these tokens. It will issue 20% of the supply to itself to help guide and fund the Wynd DAO in first months and years. These funds will be used to ensure sufficient liquidity of the $WYND token, fund development projects like the Oracle service, and fund another other actions for the good of the community.

The development team fund will reward those who put in energy to bring this too launch, but will also leave some funds in reserve, controlled by the Wynd Foundation, to reward important contributors who join the DAO after launch.

Please note that most of these tokens will be subject to a vesting period to limit initial liquidity and avoid quick dumping. The foundation will have around 25% of their token supply liquid on day one so they can help establish the LP pools. But all the rest of the genesis tokens will be vesting on various schedules.

2.3 Future Minting

Many protocols mint more tokens over time to be able to pay for ongoing development, marketing, or to provide incentives to LPs or stakers. However, there need to be clear limits to the growth of the token supply and ideally the inflation rate should decrease over time. To that end, we have

decided to allow a maximum minting of 42 million $WYND per year. Note that this implies a reduced percentage every year as the supply increases.

The minting will be controlled by a vote of the Wynd Community DAO and the actual tokens minted may well be less than this maximum, these numbers define the limits to minting hardcoded in the $WYND token contract.

We also don't prescribe where the tokens go, but let the DAO decide on the distribution of these tokens, based on the future needs of the chain. "Do we need more marketing or dev?" "Do we want to mint fewer this year with the potential to use them next year?" This is up to the DAO to decide, based on the changing market and environment.

In order to have a final supply cap, we will limit minting to 42 million per year for the first 8 years, and 37 million $WYND per year for the following 12 years. After 20 years, minting $WYND will be halted, leaving a permanent hard-cap of 888 million $WYND tokens.

You can view the initial supply increase in this table:

Year	Total Supply	Supply Increase
0	108 M	---
1	150 M	38.89%
2	192 M	28.00%
3	234 M	21.88%
4	276 M	17.95%
5	318 M	15.22%
6	360 M	13.21%
7	402 M	11.67%
8	444 M	10.45%

3. $WYND Fairdrop

As we have seen the drama on some chains when dealing with the consequences of gamed airdrops, we did not release any details of how the calculation is performed until after the snapshot was taken.

We are doing our best to make this distribution "fair". Not just by releasing 65% of the tokens to the general public, but also in how we select the participants. We will seek to exclude any accounts tied to centralized exchanges and only grant to people in possession of their own tokens.

Cosmos has many chains and many active contributors in many different forms. We wish to invite as many of them to as possible to participate in the birth of the Wynd DAO. We have looked at many other airdrops and are doing our best to learn from the successes and failures of them. One notable item is to avoid people looking to "game the system" and quickly dump any airdropped tokens. For this reason, all airdropped tokens will be vesting, meaning that they can be used for voting and staking from day one, but it will take a full year until they can all be freely transferred and sold.

3.1 Recipients

To start with, we will be rewarding both Stakers and Validators of Juno, Osmsois, and Regen.

Juno is the central CosmWasm chain currently, and where we will launch Wynd. It also has a growing ecosystem of devlopers we would like to collaborate with.

Osmosis is the central Dex of the Cosmos ecosystem, and has wonderful community discussions. We would like to bring some of that spirit of discussion to the Wynd DAO.

Regen is the OG ReFi project in Cosmos, and perhaps all of blockchain, working on issuing verifiable, high-quality Carbon and Biodiversity credits. We have much alignment with their philosophy and wish to invite their community of believers to form a core part of the new Wynd DAO.

Even though we provide slightly smaller allocations to Regen, it has about 20% of the market cap and 5% of the number of stakers as Juno, which make the allocations to each individual Regen staker the highest by far.

We will reserve some airdrop tokens to perform a second round to lend a hand to those hardest hit by the LUNA implosion, which will occur when technically possible. Minimally, it will include bonded LP holders in the Osmosis UST and LUNA pools around May 9th, who got wiped out as the market crashed, unable to move their tokens. If possible, we will also attempt to provide some to those who had staked LUNA on the Terra network, but this is more complex as the signing tools and address derivations on Terra and Juno are different.

3.2 Distribution Details

5% of the total token supply, or 5.4 million $WYND, will be airdropped to various validators. As there are many fewer validators than stakers, they should still receive significantly more than the average staker in light of the hard work they perform and their central role in the ecosystem. This will be split as:

- 2 million $WYND for Juno validators
- 2 million $WYND for Osmosis validators
- 1.4 million $WYND for Regen validators

Of the remaining 60% of the tokens reserved for the airdrop, or 64.8 million $WYND, we will distribute this as follows:

- 35%, or 22.7 million $WYND, will be split by Juno Stakers
- 10%, or 6.5 million $WYND, will be split by Regen Stakers
- 25%, or 16.2 million $WYND, will be split by Osmosis Stakers
- 30%, or 19.4 million $WYND, will be reserved for the second round

The second round will take place when technically feasible to perform all needed calculations, most likely in June. At minimum, this will reward people who had 7 or 14 day bonded LP positions on the following Osmosis pools before the Terra meltdown: LUNA/UST, LUNA/ATOM, LUNA/OSMO, and OSMO/UST.

If technically possible, we will also drop some $WYND on $LUNA stakers from the Terra network, although the claim is much more difficult technically as the wallets are not interoperable with Juno.

3.3 Timing

We took snapshots of Osmosis, and Regen on May 5, 2022. We took the Juno snapshot from May 6, right after the Unity upgrade. This date was chosen to reward the stakers who truly believe and didn't start dumping in April as the bear market hit.

We have performed complex calculations on the distributions (see Addendum) in order to find a smooth distribution that rewarded **average holders**, rather than whales, or people trying to game the system with lots of "dust accounts".

The Airdrop will go live on June 6th and remain live until August 31st, 2022. Any tokens not claimed by the end of the airdrop will be "clawed back" and sent to the Wynd DAO community pool, which will be live by then. Those claw-backed token will have the same vesting period as all the airdrop recipients.

3.4 Multichain Claims

Airdrop recipients will need to provide their Juno address to view their portion and claim it. We will automatically convert accounts on other chains to the corresponding Juno address and perform the airdrop on one chain. This also means recipients will need 0.001 $JUNO or so to pay gas fees, which they should easily be able to get on Osmosis.

The address format and derivation on Juno, Osmosis, and Regen is the same, so it is quite easy to convert accounts from one chain to another, while ensuring the private key holder has access to the new account. If they are in possession of your private keys in Keplr or in a Ledger, generating the Juno address should be no problem.

If the tokens are held by a custodial solution and staked on your behalf, the airdrop is unable to properly account for this. The custodian will most likely receive some $WYND, but as the rewards decrease for whales with many tokens, by design they will receive far less as if all the clients had staked directly. The Wynd Foundation is not responsible for assigning such funds, and anyone in such a situation must discuss it with their custodian.


4. Vesting Plans

As the Wynd project seeks to encourage sustainability and long-term commitment, we will be using vesting plans on almost all the genesis tokens (except for a small amount of liquidity immediately available by the Foundation to bootstrap the AMM Pools). This design is based on the standard Cosmos SDK vesting account, but we implemented this as part of a CosmWasm CW20 contract, as the above only works with native tokens.

Tokens that are vesting will only be able to be used with the DAO staking contract to get voting rights. All other tokens in the account (including liquid tokens sent to the account later) will be able to be used normally.

While researching this design, we discovered that we are not the only project to provide vesting on the airdrops, and Asset Mantle is using a similar approach.
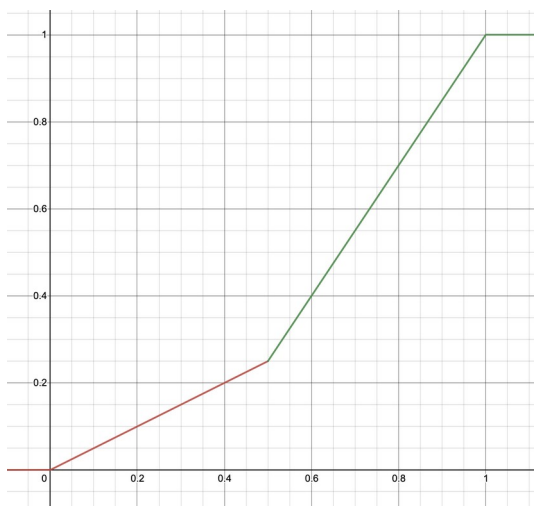
4.1 Curves Used

The basic approach would be a linear vesting curve. This has a start date and an end date and an initial amount. Up until
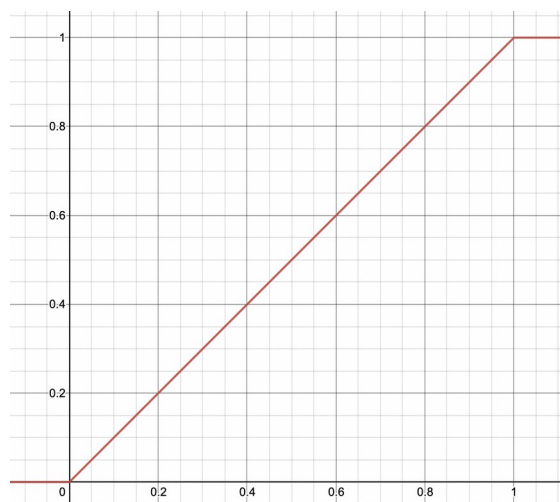
the start date, the entire amount is vesting; after the end date, zero tokens are vesting; between those periods, the number decreases linearly, so after 25% of the time between start and end, 25% of the tokens have vested (are unlocked).

We believe the first 6 months are going to be pivotal for the protocol and prove the value of holding $WYND for the longer term, so we would like to vest a bit slower in the initial region. For that purpose, we plan to use "piecewise linear" vesting curve, using the same math as Aave interest rates.

Basically the idea is we target 25% vested after 6 months. That means it increases linearly (a bit slower) for the first 6 months, and then a faster linear vesting for the next 6 months. After 25% of the time, only 12.5% will be vested, but after 75% of the time, 62.5% will have been vested.

4.2 Vesting periods

Given the extreme volatility of the market as we launch, and as we want to focus on long-term holders, disuading people who claim and dump in a panic to cover their other losses, *no airdrop tokens will be liquid until September 1, 2022*. At that point the airdrop will be closed, and the foundation will seed a sufficiently liquid pool on a Cosmos Dex.

All airdrop tokens will be subject to the same vesting rate, which is the piecewise linear curve above. The fully vested tokens will range from 0% on September 1, 2022 to 25% of the airdrop claim on March 1, 2023. After that time, the Wynd DAO should have established solid use-cases and market and we speed up the vesting by a factor of 3, such that the entire airdrop claim is fully vested by September 1, 2023.

The core team will have the same curve, but be delayed by 2 months to ensure they cannot swamp the early liquidity. That is, they will vest the first 25% between November 1, 2022 and May 1, 2023. And fully vest by November 1, 2023.

For the foundation, 25% of the tokens will be initially liquid, and used to seed liquidity on a Dex. The remaining 75% will be subject to a vesting period. This will be a 3 year linear vesting period, releasing 25% of their allocation each year. This ensures the foundation spreads the grant funding over a longer periods. It is the intention that the foundation holds the tokens much longer than strictly necessary, but the vesting curve can provide some investor security on total supply.

5. Oracles

5.1 WYND Environmental Data & Oracles Service

WYND is committed to bring visibility to the environmental conditions by bringing the right data to measure the current state appropriately. In order to achieve this, WYND is actively building data services for fetching orbital (satellites) as well ground based data from communities, organisations and volunteers.

There is now a critical need for an intelligent data system integrated with a marketplace economy in order to fully leverage the vast potential of these data sets. Satellite observations need ground data for validation and calibration. Ground measurements on forest fires, land cover changes and air pollution are critical to building a bridge ***between the global picture painted by the satellites and the contextual reality of what actually happens on the ground.***

Additionally, data collected from different sources are sometimes challenging to locate and to understand across diverse formats. Published scientific analyses can be complex to reproduce for new use cases, and are sometimes not easily comparable with other metrics and algorithms. Many scientific data products do not follow common data protocols, or even have a clean API to query for another task. Finally, and perhaps most importantly, the collaborative sharing of data and algorithms often stalls due to the challenge of incentivizing and rewarding continued interest and community development. The inconsistency of funding often precipitates the breakdown of relationships between data users and providers due to funding constraints, which eventually renders data sets obsolete to operational management decisions and environmental action.

WYND data services is founded on the following tenants:

1. simple trusted data
2. reproducibility
3. interoperability
4. free exchange
5. easy collaboration

This approach provides a foundation that will enable a multitude of conservation and business applications focused on ecological health, as well as turbo-charging research and analysis to advance the state of the art.

5.2 Open Data

One essential aspect of this project is that all source data is open. This ensures we don't end up like another Microsoft Earth, a pay-to-play initiative that many cannot access, and one organisation controls. We are establishing a data commons and providing value-added services on top of it. The original datasets we are working with are often under some open licence. Generally, that would be Public Domain, CC0, or CC-BY (attribution required), or even CC-BY-SA (share alike, derivative work must also be open).

What this means, is that the original data (in increasingly normalised format) will be available to all. The indexes to search and organise such data will also be fully open, as well as the various algorithms we use to process the data.

However, many projects uploading "ground truth" need continuous funding to be sustainable. While we require all remote sensing data to be under an open licence, we will allow such user-uploaded data to be non-open source, as many groups are concerned about reuse without payments.

To provide a viable revenue stream for all data providers, we focus on value-added products on top of the data. Other teams can build products directly on the basic data for free, or pay to use these extensions.

5.3 Data Value Enrichment

WYND will collect user specific data and other open data sources and perform the process of Extracting, Transforming and Loading data on base map based on location index (H3 Index) of base map. Once this user specific data is enriched utilising all other data sources, some extra model weights may be applied by federated machine learning and deep learning models for more enrichment of user published data. This new fused dataset will then be used to calculate certain quality indexes to represent a shareable user and site behaviour which changes over time. This brings unprecedented visibility to the whole community about the site and the data publishers.

Together the WYND aims to present a framework that serves as a market for innovation, and which will evolve as observing techniques and algorithms advance. Still, innovation will be contained within 3 basic categories for descriptors and metrics of ecosystem health:

1. **Carbon / Living Biomass:**
   These metrics describe the total mass of living organisms in an area or region, and can be associated with carbon stored in living plants.

2. **Biodiversity:**
   These metrics represent the characterization of the breadth of the varied species within a region or ecosystem, including plant, animal, fungal, and microbial classifications.

3. **Degree of human intrusion:**
   These metrics represent objective measures of human presence and landscape alteration, and include variables such as mining, logging, agricultural density and type, road density, human population density and nighttime lights.

4. **Pollution:**
   These metrics describe the degree of toxicity (i.e. the ability to cause harmful effects over long periods), of the air, water, or soil, often associated with foreign chemical contamination.

These metric classifications were designed for their comprehensiveness as well as for their orthogonality. They are comprehensive in that together these metrics will conclusively describe the health of a region or ecosystem. They are orthogonal in that it is possible that any one of these metrics may change in isolation of the others. For instance, while it is likely that many of these metrics would be consistent or correlated for an impacted region (e.g. the city of Los Angeles), it is possible that environmental action may shift only one (e.g. with a conversion to electric vehicles, the pollution metric alone may improve). As we consider a rapidly changing ecosystem, it is likely that these metrics could evolve independently or in sequence but may not be temporally or spatially correlated.

6. Governance

In the initial phase, all work deployment be done by the Wynd Foundation, which will also manage the contracts. This work will be managed by a five member multisig designed to incubate the DAO until it is fully up and running.

Shortly after the airdrop, we plan to launch a token weighted governance contract, which will constitute the basis of the DAO. It will use a modified version of Curve's veCRV design, such that people may bond their $WYND tokens for different lengths of time, and the longer the tokens are staked for, the more voting power they have (reflecting commitment).

Once the Wynd DAO is established with significant participation, the Wynd Foundation will hand over control of the WYND token contract (allowing it to mint according to the pre-defined schedule (see section 2.3). The clawed back unclaimed airdrop tokens will also be sent to a "community pool" governed by the Wynd DAO.

Initially, the Wynd Foundation will retain a "veto" right on any proposal passed by the Wynd DAO to ensure there are no governance attacks. This is meant to be a temporary situation of several months and designed to prevent attacks targetting low-cap tokens. The Wynd Foundation cannot pass any proposal or modify any protocol, only prevent dangerous modifications.

Once the Wynd DAO is fully running, it should engage in activity beyond the scope of this white paper, but aligned with the vision defined in the first section. The Wynd Foundation aims to cultivate an active community forum for discussion of such ideas.

For details on the exact implementation of the voting will come in a future version of the whitepaper, but it will be based on the DAO-DAO design, incorporating veCRV elements.

Addendum: Fairdrop Calculations

The Following Section describes the WYND token airdrop methodology for stakers and validators of different chains.

WYND token will be getting airdropped to stakers and validators of various chains through a vesting contract. We did an analysis of data from snapshot date of these different chains and designed the formulation of reward shares for each staker & validators engaged at different levels with the chains. Majority of WYND will be airdropped to large number of stakers on different chains and some will be airdropped to validators.

Stakers

We want to reward typical stakers by not lossing it for acoounts with negligible stake amount and also don't want to give huge amounts to whales either.
We mapped out the staked amount, balance, and transactions sent for various chains, and put this in a chart to analyze the distribution. You can look at this example for Osmosis:

	txs_sent	balance	staked	staked_value	balance_value	commitment_pct
count	171567.000000	171567.000000	171567.000000	171567.000000	171567.000000	171567.000000
mean	113.907144	124.086881	515.601927	2149.618360	517.335998	82.516861
std	1219.236857	35169.040027	25497.781100	106303.905296	146624.770435	25.445904
min	1.000000	0.000000	0.000001	0.000004	0.000000	0.000000
1%	1.000000	0.000000	0.000001	0.000004	0.000000	2.177501
10%	1.000000	0.000000	0.001000	0.004169	0.000000	48.647305
20%	4.000000	0.000100	0.010000	0.041691	0.000417	60.840563
30%	7.000000	0.004075	0.090460	0.377142	0.016989	83.392828
40%	14.000000	0.011321	1.100000	4.586058	0.047199	90.909091
50%	23.000000	0.055413	7.800000	32.519318	0.231025	95.782746
60%	38.000000	0.184544	20.102825	83.811560	0.769390	98.491841
70%	59.000000	0.573054	32.140622	133.998861	2.389146	99.655377
80%	107.000000	1.607627	57.447945	239.508720	6.702426	99.987488
90%	259.000000	6.701403	169.341299	706.008157	27.939108	100.000000
99%	1364.340000	247.306499	4988.445165	20797.543139	1031.056251	100.000000
max	398034.000000	14517901.476627	8975000.000000	37418061.842175	60527212.843570	100.000000

Staked Tokens:

What we notice. The top 1% has a HUGE amount of the money. Those are real whales.
Also, after we hit 70% or 80%, the ratio between columns increases a lot. On the bottom side, the bottom 20% or30% have 1 Osmosis or less staked, which is really like dust accounts.

Transactions:

The bottom 20% have only sent 1 transaction ever. Just to stake. The top 1% have sent 100s of transactions to compound their interest. If we draw a 20%-80% line, that will range from 1 tx to 14 tx ever sent, a very reasonable range.

We actually highly punish the ones that only sent 1 tx. They never voted, nor withdrew any tokens. The ones with 3 or more are more active.

Commitment:

We created an indicator for commitment level by finding the percentage of tokens staked in comparison to total token holdings and reward those with higher commitment to stake as compared to balance of the account.

Formula:

We use piecewise linear curves for all items, constant above a minimum and maximum.

Given user X is percentile ρ in some metric (staked, balance, transactions, commitment), we define the reward formula as:

Reward = func(ρ, a, b, min, max):
  = a; if ρ < min
  = b; if ρ > max
  = a + ((b-a) * (ρ-min)/(max-min)); otherwise

Where *a* and *b* are for percentile cutoffs over a range of points in terms of *min* and *max*.

We chose following values for calculating individual reward points for each feature i.e. stake points, transaction points and commitment points, to be utilized as multiplier for final points calculation for a wallet.

stake points = Reward(ρ(staked), 20, 80, 0, 100)
tx multiplier = Reward(ρ(txs), 30, 90, 1, 23)
commitment multiplier = Reward(ρ(commit), 0, 100, 1, 3)
Total Shares = (stake points * tx multiplier * commitment multiplier)

We then finally allocate the *Percentile Rank* for every wallet based on this total share score. If they get the same score then maximum rank is allocated to each wallet.

Validators

We will also reward validators from various chains. We want to reward active validators. Not just the big guys. And we want to manually filter out centralized exchanges or other "problematic" characters. We avoided airdropping to the Cosmos Hub mainly because of the prevelance of VC firms and centralized exchanges in the stakers. Other than that, we simply filter out validators offering 0% or 100% fee. These are removed from the validator list before making all percentiles and doing the other calculations.

For validators snapshot data we mapped token staked, commission fees and number of delegators for proceeding with our formula to allocated scores to all validators active on different chains. Validators distribution on osmosis after applying initial filters we see the following:

	tokens	commission	stakers
count	135.000000	135.000000	135.000000
mean	886176.126757	6.148148	2013.770370
std	1671642.447583	8.233095	4776.320636
min	66290.189605	5.000000	7.000000
1%	74399.966156	5.000000	19.360000
10%	102375.624752	5.000000	76.000000
20%	130613.406840	5.000000	134.800000
30%	177202.959605	5.000000	201.200000
40%	217770.190196	5.000000	280.000000
50%	329101.169927	5.000000	490.000000
60%	478559.095697	5.000000	736.600000
70%	735090.260866	5.000000	1120.000000
80%	1256058.889528	5.000000	1841.800000
90%	2213073.907506	7.000000	4706.400000
99%	6429356.264893	10.000000	18325.560000
max	15442161.429349	100.000000	40592.000000

Tokens Staked:

There is only about a 10x change between 20% and 80%. The other extremes are quite extreme. A 10x between biggest and smallest seems rather fair.

Number of Delegators:

Between 20% and 80% there is a 20x difference. I am not sure this is such an important criteria at higher levels, but mainly to differentiate those who have relatively few, and those who have a larger group.The 40% is already almost 500 delegators (while 1% is only 30). Let's just provide a multiplier over this low section and saturate at 40% (so all the rest get the same multiplier - basically a punishment for the low end)

- 0th percentile ➡ 20% multiplier
- 10th percentile ➡ 40% multiplier
- 20th percentile ➡ 60% multiplier
- 30th percentile ➡ 80% multiplier
- $40^{th}+$ percentile ➡ 100% multiplier

Formula:

Similar to stakers formula used above, we calculated points based on total staked tokens by the validators and the number of delegators they have to be used as multiplier for calculating the total shares.

token points = Reward(ρ(tokens), 20.0, 80.0, 10, 100)
delegators points = Reward(ρ(stakers), 0.0, 40.0, 0.2,1)
*Total Shares = (token points * delegators points)*

We then finally allocate the *Percentile Rank* for every wallet based on this total share score. If they get the same score then maximum rank is allocated to each wallet.