TOKENOMICS DESIGN

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Glossary

Term	Definition
Liquidity Providers (LPs)	Individuals or entities that contribute liquidity to the $GMA token on decentralized exchanges (DEXs). This action enables seamless trading activities by ensuring there is enough market depth.
Volume-Range Liquidity Providers (VRLPs)	Specialized liquidity providers who commit capital within specific price ranges in the Volume-Range Automated Market Maker (Vol-Range AMM). VRLPs facilitate options trading by enhancing market liquidity, and in return, they earn transaction fees based on trading activity within their designated price ranges.
Margin Pool Lenders (MPLs)	Participants in the Gamma Options ecosystem who provide USDC or other stablecoins to borrowers (such as traders and VRLPs) to enhance their buying power or trading leverage. MPLs play a crucial role in extending the capital available for leveraged positions, thereby increasing liquidity and market activity.
Insurance Fund Providers (IPFs)	Individuals or entities that contribute capital to the Gamma Options insurance fund in exchange for a share of the rewards governed by the Dynamic Treasury Formula. IFPs must lock their funds for a predetermined period to qualify for these rewards, which helps ensure the long-term stability and safety of the Gamma Options platform.
GAMMA ($GMA)	The utility token of Gamma Options, serving multiple functions within the platform, including but not limited to staking for governance rights, and participation in protocol governance through decentralized autonomous organization (DAO) mechanisms.
veGMA	A specialized token representation received by holders who stake their GAMMA tokens. VeGMA indicates the amount staked and its duration, influencing the staker's voting power in protocol governance. The longer and more GAMMA tokens are staked, the greater the voting power conferred by veGMA.
Margin Pool Utilization Rate (MPUR)	A metric that indicates the percentage of the margin pool's total available capital that is currently being utilized by borrowers. A higher MPUR suggests more active borrowing and leverage within the platform, while a lower MPUR indicates more available liquidity in the margin pool.

Executive Summary

This document presents a qualitative model of the tokenomics for Gamma Options, establishing foundational principles and categories for token allocation. It has been crafted by Calea Digital to guide the development of more detailed quantitative analyses and future stress testing in order to optimize all variables and ensure that the mechanisms work as intended pre-token launch.

The GAMMA token, functioning within the Ethereum network with an initial supply of 100 million tokens, is designed to be a pivotal element of the Gamma Options ecosystem. It serves multiple core functions: facilitating governance by granting voting rights within the Gamma Options DAO, incentivizing platform engagement through staking rewards, and providing transaction fee reductions. Furthermore, GAMMA is used to reward liquidity providers, which is critical for maintaining market stability and depth. Enhanced access to platform features and participation in an insurance fund to mitigate systemic risks are additional utilities that integrate the token deeply into the operational and risk management frameworks of the platform.

The token allocation strategy is delineated to ensure a balanced distribution across various stakeholders, including the development team, advisors, and investors, through structured lockup and vesting periods that align with long-term platform goals. The dynamic treasury plays a crucial role in managing the token distribution based on real-time metrics and protocol needs. It adjusts incentives dynamically, and excess tokens are burned to encourage a balanced ecosystem, thus preventing inflationary or deflationary pressures from destabilizing the token economy.

An integral component of Gamma Options' risk management strategy is the insurance fund, designed to provide stability in the event of black swan scenarios. This fund comprises a mix of GAMMA tokens and USDC, ensuring diversified risk mitigation. The structure of the fund allows for the absorption of shocks to the system without exerting undue pressure on the GAMMA token's market stability. If the fund's holdings are insufficient to cover losses, the protocol employs a socialized loss mechanism, spreading the impact equitably among all participants.

The decentralized autonomous organization (DAO) at Gamma Options facilitates a democratic governance process, allowing GAMMA token holders to exert direct influence over key decisions including protocol updates, treasury management, and strategic adjustments. This ensures that the development trajectory of the platform remains aligned with the interests of its diverse community. The DAO framework not only empowers token holders with decision-making authority but also allows for delegated voting, ensuring that even less active members have a voice in the protocol's direction through trusted representatives.

Introduction

This document is designed to outline a qualitative and conceptual model of tokenomics, laying the groundwork for more advanced quantitative analyses and stress tests in the future. We will develop mechanisms, processes, and token allocation categories, avoiding the specification of exact numerical values. The use of this document is reserved for the client, with no intention for public disclosure.

The goals of this report are:

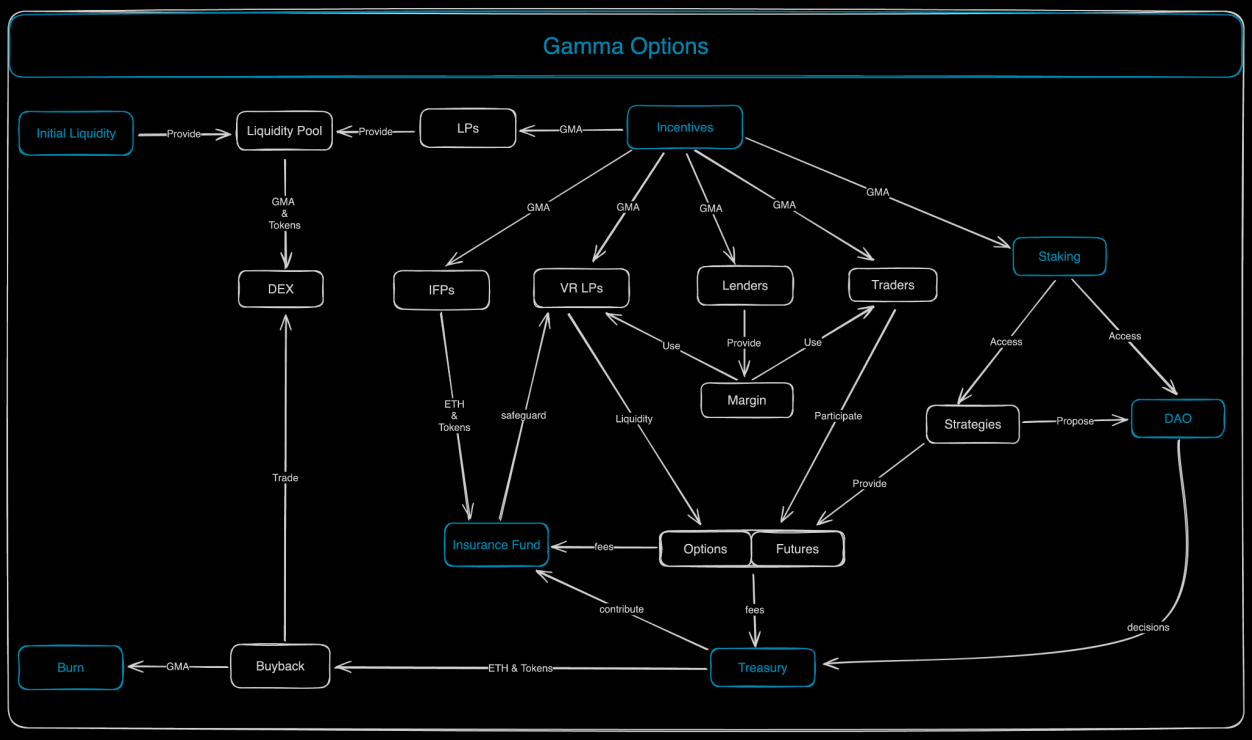
- Explaining the fundamental principles governing the token's economy.
- Defining the categories of token allocation and explaining their role within the ecosystem.
- Analyzing how these components interact within the ecosystem qualitatively.

This document focuses on the qualitative aspects of tokenomics, avoiding delving into quantitative details. This approach allows for adaptability in the early phases of design and facilitates precise adjustments based on subsequent stress tests and analysis.

In the next phase, we will conduct stress tests to simulate different scenarios and assess the robustness of the tokenomics. These scenarios might include changes in the demand for the token, variations in the token's price due to external factors, shifts in user behavior, or economic crises that could impact the stability of the Gamma Options ecosystem.

Through these stress tests, we aim to identify potential vulnerabilities and enhance the resilience of the tokenomics, ensuring its sustainability and the protection of its users' long-term interests.

Gamma Options Protocol Design



Token Specifications

Token Name: GAMMA

Token Symbol: GMA

Initial Supply: 100,000,000

Supply Type: Unlimited

Network: Ethereum

Token Description: GAMMA is a utility and governance token which acts as the backbone of Gamma Options. Allowing token holders to vote on matters related to the protocol as well as granting access to strategies. Furthermore, the token will act as an insurance against possible negative events.

Token Utilities

Gamma Options utilizes its native token, GAMMA [$GMA], as a fundamental component of its decentralized finance ecosystem. The primary function of $GMA is to serve as a cohesive element within the protocol, binding various operational areas and fostering deep integration among participants, including protocol users and the core development team.

The token is strategically integrated into key facets of the Gamma Options platform to enhance user engagement and ensure robust participation in governance processes. Here are several critical utilities of the $GMA token within the ecosystem:

1. **Governance:** $GMA holders possess voting rights within the Gamma Options DAO. This governance utility allows token holders to participate actively in decision-making processes that determine the protocol's direction, including updates to the protocol, treasury management, and strategic adjustments. Governance participation ensures that the development of the protocol aligns with the interests of its stakeholders.

2. **Staking:** By staking $GMA, users can earn staking rewards, enhance their voting power in the DAO, and qualify for other incentives. Staking not only secures the network but also aligns the long-term interests of stakeholders with the health and security of the platform.

3. **Liquidity Provision Rewards:** $GMA can be used to incentivize liquidity providers who supply critical liquidity to the platform's three key areas:

    a. **Liquidity Providers (LPs):** Provide liquidity to the $GMA trading pairs on Decentralised Exchanges (DEX).

    b. **Volume-Range Liquidity Providers (VRLPs):** Provide liquidity to implied volatility ranges, allowing for the options trading to occur.

    c. **Margin Liquidity Providers (MLPs):** Contribute to the ecosystem by providing liquidity to the margin pool, which can be subsequently used by traders and VRLPs.

4. **Access to Advanced Features:** Staking $GMA will grant users access to premium features within the platform, such as enhanced trading capabilities, advanced analytic tools, and early access to new products or services.

5. **Insurance Mechanism:** As part of the platform's risk management framework, $GMA may be used in the insurance fund that protects against potential systemic risks, providing stability and security for the platform's users.

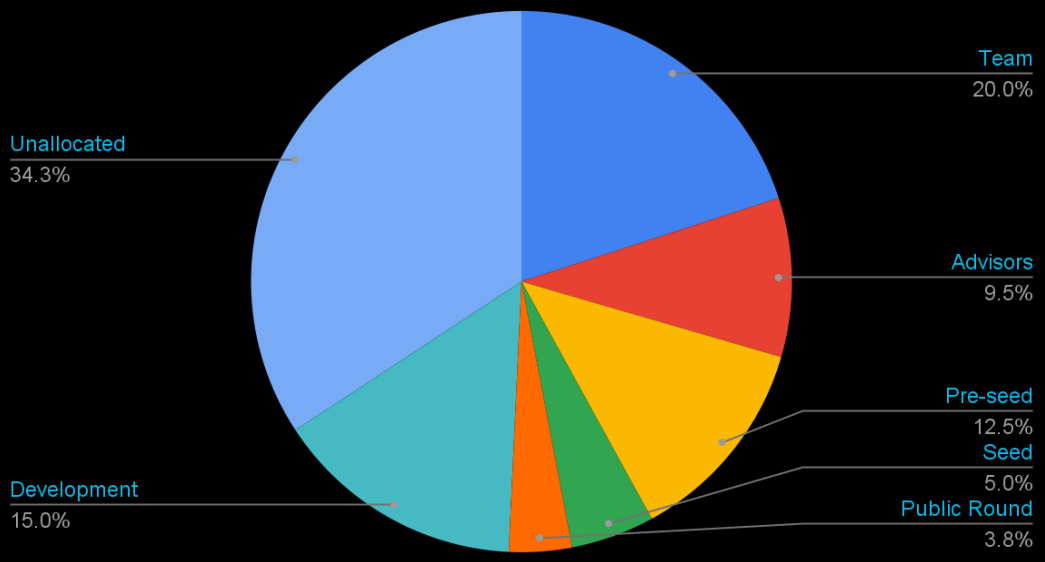
Gammanomics

Allocation & Distribution

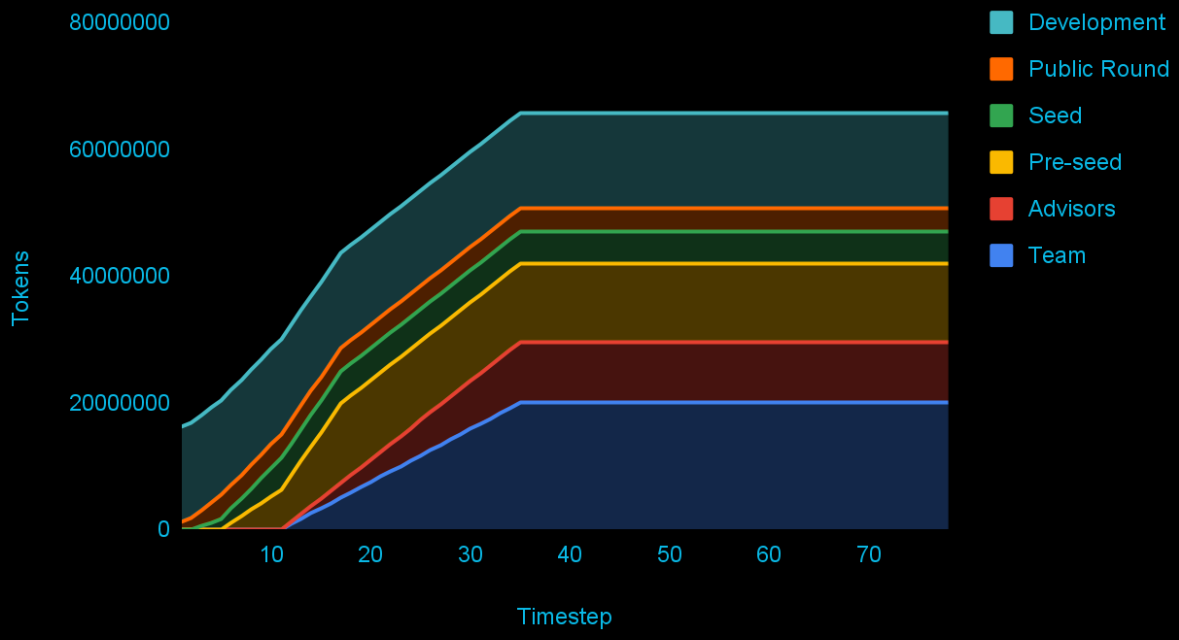
Allocation	Allocation (%)	Allocation (Tokens)	Lockup (M)	Vesting (M)
Team	20.00%	20,000,000.00	12	24
Advisors	9.50%	9,500,000.00	12	24
Pre-seed	12.50%	12,500,000.00	12	12
Seed	5.00%	5,000,000.00	6	9
Public Round	3.75%	3,750,000.00	0	6
Development	15.00%	15,000,000.00	0	0
Initial Liquidity	TBD	TBD	TBD	TBD
Treasury	TBD	TBD	TBD	TBD
Incentives	TBD	TBD	TBD	TBD
Airdrop	TBD	TBD	TBD	TBD

* Allocations and vestings for sections To Be Determined (TBD) will be adjusted throughout the stress testing.

Token Distribution (%)



Vesting Schedule



Dynamic Treasury

Gamma Options' dynamic treasury is the single most important section regarding tokenomics. This is because it will be managing the distribution of all rewards and incentives amongst the key protocol stakeholders. The dynamic treasury will balance daily incentives based on one of the key protocol metrics, Margin Pool Utilization Rate, distributed to each key stakeholder depending on the protocol needs at any given time. In order to ensure that tokens are also burned efficiently, we incorporate the mechanism into the dynamic treasury formula so that tokens are burned depending on how the protocol is working at any given moment in time.

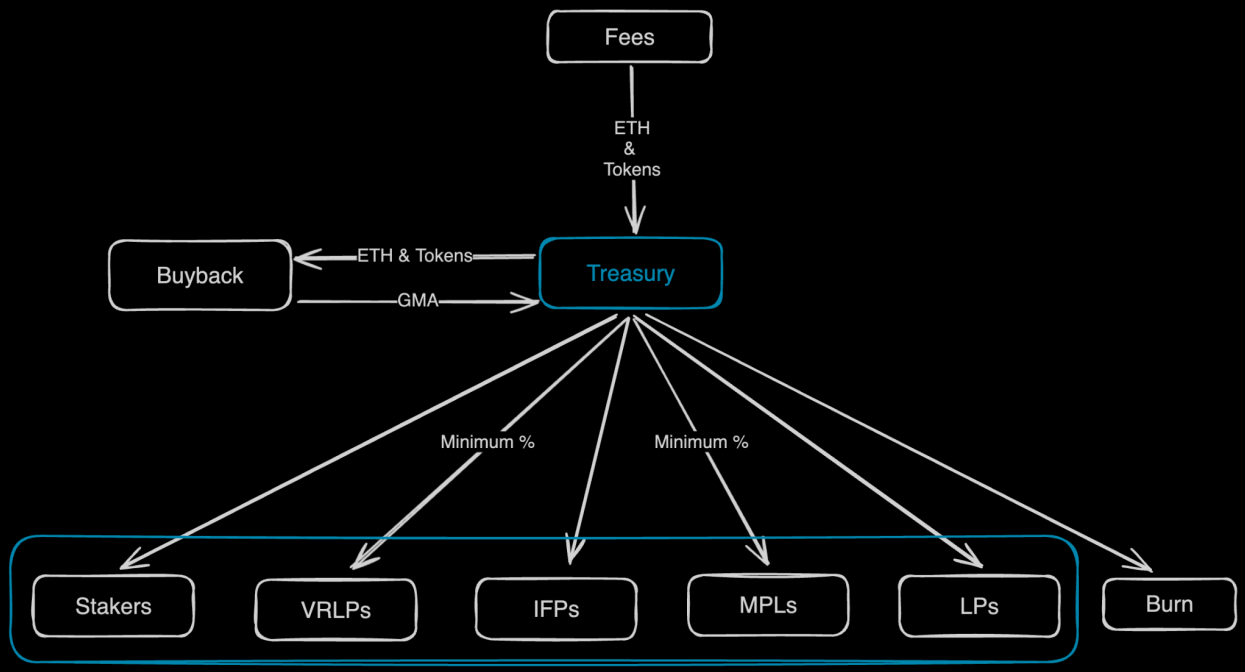
There are five identified stakeholders who will bonify from the dynamic treasury formula, as they are core actors within the protocol: Margin Pool Lenders (MPLs), Vol-Range AMM LPs (VRLPs), stakers, Insurance Fund Providers (IFPs) and token liquidity providers (LPs).

The dynamic treasury will be dynamic for the Margin Pool Lenders (MPLs) and borrowers, Vol-Range AMM LPs (VRLPs). Regulating the interactions between both at any given time. The rest of variables will receive a fixed percentage of the available rewards. The dynamic formula can easily be adapted to include dynamic elements to the rest of stakeholders at any given moment, in order to make the distribution more efficient and aligned with the long-term objectives of the protocol.

For example, if the optimum margin pool utilization rate (MPUR) is 45% and current MPUR is 68%, the borrowers will receive less tokens and lenders will be receiving more. This mechanism will help balance at any given time the behavior of the core stakeholders, ensuring that there are adequate incentives within the protocol whilst maintaining a healthy ecosystem.

All stakeholders will always receive the same base minimum percentage of the incentives, whilst MPLs and VRLPs will receive double as a base and will see their allocations change inversely proportionally as a result of the dynamic treasury balancement as they are the cornerstone of the protocol. Without MPLs and VRLPs, the protocol would cease to exist.

Dynamic Treasury Diagram



Dynamic Treasury Formula (DTF)

$$UR_{Level} = \left(Optimum_{UR} - Current_{UR}\right) \times AF$$

$$SH_{MPLs} = max(1 - UR_{Level}), 0)$$

$$SH_{VRLPs} = max(1 + UR_{Level}), 0)$$

$$SH_{others} = 0.5$$

$$Level_{sum} = SH_{MPLs} + SH_{VRLPs} + \left(SH_{others} \times N_{others}\right)$$

$$Rewards_{SH} = \left(\frac{SH}{Level_{sum}}\right) \times Available\ Rewards$$

UR_{Level} = Utilization Rate of Margin Pool
$Optimum_{UR}$ = Optimum Utilization Rate
$Current_{UR}$ = Current Utilization Rate
SH_{MPLs} = MPLs Stakeholder Level
SH_{VRLPs} = VRLPs Stakeholder Level
SH_{others} = Stakeholder Levels for the remaining
N_{others} = Total Number of other Stakeholders (4)
$Level_{sum}$ = Total sum of levels
$Rewards_{SH}$ = Rewards allocated to each Stakeholder

DTF Example

If there are 10,000 tokens to be distributed on a given day, current UR is 69% and optimum UR is 53%, and assuming an Adjustment Factor of 2 then rewards would be as follows:

Stakeholder	Percentage to Receive	Tokens to Receive
MPLs	33.00%	3,300.00
Staking	12.50%	1,250.00
VRLPs	17.00%	1,700.00
Burn	12.50%	1,250.00
LPs	12.50%	1,250.00
IFPs	12.50%	1,250.00
Totals	100.00%	10,000.00

As we can see from the example, all sections would receive their base allocation, whilst MPLs would receive more rewards, incentivising users to provide more liquidity to the margin pool whilst disincentivizing VRLPs from borrowing more from the margin pool.

Emissions & Inflation

To cultivate a sustainable token economy over the long term, Gamma Options has adopted a controlled emission strategy. The emission rate of additional incentives is defined on an annual basis, facilitating a predictable inflation rate. This approach is designed to balance the need for incentivizing token utilization with the imperative to preserve token value against year-over-year depreciation due to inflation. The precise annual inflation percentage is determined through rigorous stress testing to identify an optimal level that supports the long-term viability of the token.

To mitigate the potential adverse effects of inflation and ensure the ongoing health of the ecosystem, a mechanism is in place whereby tokens are burned by the dynamic treasury. This burning process is carefully calibrated to ensure that the amount of tokens removed from circulation does not exceed the rate of inflation. As a result, the token's annual inflation rate may effectively reduce to zero, but it is structured to prevent the ecosystem from becoming deflationary. This policy is intended to encourage active participation within the ecosystem, as holding tokens without engaging with the platform's utilities will lead to a gradual loss of purchasing power.

Buyback & Burn Mechanism

Gamma Options employs a systematic approach to managing its token supply through a buyback and burn mechanism. A predetermined percentage of the fees generated by the protocol is allocated to repurchase GAMMA tokens from the open market. Once acquired, these tokens are either redistributed in accordance with the dynamic treasury formula or permanently removed from circulation through burning. To mitigate the risk of users attempting to capitalize on token price increases due to additional buy-pressure, buybacks can occur automatically several times a day if no one triggers the event before. Additionally, users who stake their tokens have the option to trigger the buyback and burn at any time.

This mechanism serves dual purposes. Firstly, it aims to enhance the intrinsic value of the GAMMA tokens by reducing the total supply, thereby potentially increasing the value per token if demand remains constant or grows. Secondly, it stabilizes the token's market dynamics. When tokens are redistributed and subsequently sold by holders, this activity is designed to have a neutral impact on the market, avoiding any undue price pressure that could destabilize the ecosystem.

The burning of tokens is governed by the dynamic treasury formula, however, as the burn section has a fixed weight of 0.5, the number of tokens to be burned will vary pending on the buyback level. Incentivising all stakeholders, not only through extra token incentives, but also through the overall increased value of the network due the increase in scarcity of tokens.

Vol-Range AMM Rewards Distribution

In order to distribute the fees accrued by the protocol in an efficient way, which sustains and rewards participants for actions that have a positive impact on the protocol, VRLPs will get a base minimum percentage of rewards. This is due to them being a core part of the protocol as they provide liquidity for the options traders. In order to keep the protocol simple and gas fees low, VRLPs will be rewarded based on the percentage of fees they contribute to the ecosystem. As the extra rewards distributed back to VRLPs will never be 100% of the total rewards available, there is no way that a user can exploit the system to gain more than the fees they have generated.

From the example below, assuming that 70% of the fees generated are distributed back to the ecosystem, and base fees are 10%, we can see how they would not be able to hack the system to gain more. In the hypothetical case where 100% of the fees accrued were distributed, they would have a net profit/loss (P/L) of zero.

Actor	Trading Vol	Fees Generated	Fees (%)	Rewards	P/L
A	102,302.00	10,230.20	7.05%	7,161.14	-3,069.06
B	94,298.00	9,429.80	6.50%	6,600.86	-2,828.94
C	48,282.00	4,828.20	3.33%	3,379.74	-1,448.46
D	912,891.00	91,289.10	62.89%	63,902.37	-27,386.73
E	293,892.00	29,389.20	20.25%	20,572.44	-8,816.76
Totals	1,451,665.00	145,166.50		101,616.55	

Furthermore, as fees are assigned through the dynamic distribution formula, the percentage allocated to each actor would be substantially less than in our example, whilst remaining dynamic, ensuring that short-term objectives are safeguarded, incentivising each different stakeholder based on the current protocol needs.

Staking

Staking serves as a critical mechanism within the Gamma ecosystem, enabling holders of $GMA tokens to engage deeply with the platform. By staking their tokens, participants unlock a variety of utilities that bridge the gap between them and the protocol. A primary benefit of staking is the eligibility to participate in the decentralized autonomous organization (DAO), where stakeholders can vote on key issues ranging from appointing new strategists to modifications in the treasury management.

The staking model is crafted to modify the conversion ratio between $GMA and veGMA over time, incorporating a quadratic element to enhance the fidelity of stake duration with influence within the platform. Specifically, the longer a participant stakes their tokens, the closer the conversion ratio approaches 1:1. This structure not only incentivizes prolonged engagement but also mitigates risks such as Sybil attacks and hostile takeovers. The introduction of a quadratic factor in the staking formula serves to align user participation with the long-term interests of Gamma Options, ensuring a stable and secure ecosystem.

In addition to these benefits, a new mechanism has been introduced that allows stakers to trigger the buyback and burn at any given moment. This new feature enhances the randomness of buyback events, preventing predictable patterns and reducing the potential for market manipulation. By granting stakers this ability, Gamma Options increases the dynamism and security of its tokenomics, fostering a more resilient and unpredictable market environment. This mechanism, combined with automatic buybacks, ensures that the token supply is managed effectively while engaging the community in maintaining the ecosystem's stability

User	Tokens (GMA)	Time Staked (Days)	veGMA*
A	5500	80	16.51341715
B	5500	1400	5057.234003
C	3402	400	255.357478
D	3402	800	1021.429912

**Assuming a maximum staking time of 1460 days, (or 4 years)*

Staking Formula

$$veGMA = GMA \times \left(\left(\frac{1}{max\ time}\right) \times \beta\right)^2$$

$max\ time = Max\ Time\ tokens\ can\ be\ staked$
$\beta = Actual\ time\ tokens\ are\ staked$

Staking Rewards Formula

The following formula aims at distributing rewards amongst stakers taking into account their participation versus the total amount of tokens staked adjusted to the total time staked by a user and normalized, ensuring that all rewards are distributed.

$$Staking\ Rewards = \left(\frac{\left(\left(\frac{User\ Staked\ Tokens}{Total\ Tokens\ Staked}\right) \times (IR + DTFs) \times \left(\left(\frac{1}{max\ time}\right)\beta\right)^2\right)}{\sum_{i=1}^{n}\left(\left(\frac{User\ Staked\ Tokens}{Total\ Tokens\ Staked}\right) \times (IR + DTFs) \times \left(\left(\frac{1}{max\ time}\right)\beta\right)^2\right)} \right) \times (IR + DTFs)$$

$IR = Initial\ Rewards$
$DTF = Dynamic\ Treasury\ Formula\ Rewards$

Strategists

Strategists play a crucial role in enhancing the growth and scalability of Gamma Options. These individuals are empowered to develop their own trading strategies and submit them for community consideration via the decentralized autonomous organization (DAO). To introduce a new strategy proposal within the DAO, strategists are required to stake their tokens, which grants them the necessary access to participate actively in the governance process.

The prioritization of proposals submitted to the DAO is influenced by both the quantity of tokens staked and the duration of the stake. Strategists who commit a larger number of tokens for extended periods are given precedence in the voting queue. This mechanism ensures that those who are heavily invested in the long-term success of the platform have their strategies reviewed and voted on more promptly.

This staking requirement aligns the interests of strategists with the long-term objectives of Gamma Options. It acts as a safeguard, ensuring that the strategies proposed are conducive to the sustained performance and integrity of the protocol. A suboptimal strategy could detrimentally affect the protocol's functionality and the value of its tokens, thereby impacting the strategist's own staked assets. For instance, although strategists A, B, and D might stake the same amount of $GMA initially, it is strategist B, who stakes for the longest duration, who would achieve the highest ranking on the strategies page, followed by strategist D. This ranking system underscores the importance of long-term commitment to the ecosystem's success.

User	Tokens (GMA)	Time Staked (Days)	veGMA	Rank
A	1000	80	3.002439482	4
B	1000	1400	919.4970914	1
C	1000	400	75.06098705	3
D	1000	800	300.2439482	2

Betting on Strategists

In alignment with the foundational business model of options trading, Gamma Options allows token holders to engage in competitive wagering on the performance of different strategists. This process is straightforward: a strategist or a token holder proposes a new wager in $GMA tokens, and for the bet to be officially opened, at least one other participant must take the opposite position. If no counterparty emerges, the proposed bet is considered void.

For instance, consider a scenario where a strategist, confident in the efficacy of his recently DAO-approved strategy, initiates a bet of 15,000 $GMA tokens asserting that his strategy will yield a 280% return over the next six months. Another user, having analyzed the strategy, believes such a high return is overly optimistic and decides to challenge this by staking 8,000 $GMA tokens against the strategist's claim.

The stakes from both sides are accumulated in a dedicated vault for the duration of the bet. The vault is only accessible once the predetermined conditions—be it the achievement of the specified return (A or B) or the expiration of the time limit—are met. During this period, additional participants can contribute to either side of the bet, thus dynamically influencing the potential payout ratios. As the endpoint of the bet approaches, much like in traditional options trading, the payout typically decreases in correspondence with a reduction in risk, as the outcome becomes more predictable.

Airdrops

The airdrop mechanism within Gamma Options is designed as a strategic initiative to enhance user engagement and expand network participation. By distributing tokens through various criteria-based programs, these airdrops aim to reward active users and incentivize behaviors that align with the platform's long-term goals. This section details the different airdrop strategies employed, including initial distribution based on referrals and subsequent rewards tied to trading volume and generated fees.

Initial Airdrop

The initial airdrop is structured to function based on a referral system. Participants will receive a baseline allocation of tokens upon referring to their first individual. Subsequently, the quantity of tokens eligible for claim will incrementally increase as participants refer additional users. This method ensures a graduated reward system that scales with the level of user engagement in expanding the network.

$$BR = M \times Base_{percentage}$$

$$A = \left(\frac{BR}{TU}\right)$$

$$User_{GMA} = A + \left(\frac{M - BR}{TR}\right) \times UR$$

$BR = Total\ Base\ Rewards$
$M = Total\ maximum\ allocation\ for\ the\ airdrop$
$Base_{percentage} = Percentage\ of\ M\ allocated\ for\ base\ rewards$
$A = Base\ allocation\ for\ registered\ users$
$TU = Total\ Users$
$TR = Total\ number\ of\ referrals\ by\ all\ users$
$UR = Number\ of\ referrals\ by\ the\ user$

Volume & Fees Based Airdrop

To encourage enhanced protocol activity, Gamma Options may implement periodic airdrops predicated on trading volume and fees generated by users over a defined period. These airdrops are structured to recognize users who contribute significantly to trading activity, as measured by the volume they generate. Additionally, the incorporation of fees as a metric allows for a comprehensive assessment of user engagement. This approach aims to sustain higher levels of participation and align user contributions with the strategic objectives of the protocol both in the short and long term.

$$S_i = (\omega v \times V_i) + (\omega F \times F_i)$$

$$A_i = \left(\frac{S_i}{\sum j\, S_j}\right) \times Total\ Tokens$$

S_i = $Combined\ contribution\ of\ each\ user\ to\ the\ protocol\ based\ on\ their\ activity\ for\ a\ period\ of\ time$

ωv = $Weight\ assigned\ to\ Volume$

ωF = $Weight\ assigned\ to\ Fees$

V_i = $Volume\ generated\ by\ a\ user\ for\ a\ period\ of\ time$

F_i = $Fees\ generated\ by\ a\ user\ for\ a\ period\ of\ time$

A_i = $Number\ of\ tokens\ airdropped\ to\ user\ i$

$\sum j\, S_j$ = $Sum\ of\ scores\ for\ all\ users$

Super Users Airdrop

To incentivize users to contribute liquidity to Gamma Options, a two-step airdrop mechanism has been designed. Firstly, the total number of tokens available for distribution is determined by a multiplier based on the Total Value Locked (TVL). When specific TVL thresholds are met, the total airdrop amount increases accordingly, thereby enhancing the Rate of Return (%) for participating users. Secondly, the airdrop allocation for each user is calculated based on their proportionate contribution to the total pool and the duration for which their assets are locked. Users who lock their assets for longer periods will receive a larger share of the rewards compared to those who contribute the same amount for shorter durations.

TVL Airdrop Multiplier

TVL ($USD)	Multiplier
5,000,000.00	0.05
10,000,000.00	0.12
15,000,000.00	0.2
20,000,000.00	0.3
25,000,000.00	0.4
30,000,000.00	0.55
35,000,000.00	0.7
40,000,000.00	0.85
45,000,000.00	1

Super Users Rewards

$$U_{br} = \left(\frac{CLP}{TLP}\right) \times \left(\frac{1}{MaxTime}\right) \times Time$$

$$NU_{br} = \frac{U_{br}}{\sum_{i=1}^{n} U_{br}}$$

$$R_u = NU_{br} \times TA$$

U_{br} = *Users base rewards calculation*
CLP = *User contribution to Pool*
TLP = *Total Pool size*
$MaxTime$ = *Maximum liquidity lockup time (can be in months or days)*
$Time$ = *User liquidity lockup time*
NU_{br} = *Normalized multiplier per user*
TA = *Total Airdrop allocation*
R_u = *Rewards per User*

Liquidity

In the Gamma Options ecosystem, liquidity plays a fundamental role in sustaining a stable and efficient trading environment. Ensuring adequate initial liquidity and effectively engaging liquidity providers are critical to the platform's operation. These elements are essential for facilitating smooth transactions and ensuring a dependable market for all participants.

Initial Liquidity

This foundational step is crucial to mitigate against sharp volatility spikes and erratic price movements, which can potentially inflict long-term harm on the ecosystem. An unchecked rise in the token's price could result in heightened sell-off pressure as holders rush to capitalize on perceived gains during vesting periods.

Conversely, an overly generous liquidity provision could dampen the token's sensitivity to market dynamics, potentially stifling its appreciation during the initial stages of launch when purchasing momentum is expected to be less vigorous compared to future phases. Therefore, pinpointing the optimal level of initial liquidity becomes essential, a determination that will be refined through rigorous stress testing. This process is designed to secure the project's sustainability and success over the short, medium, and long term.

Market makers are instrumental in this schema, especially on platforms such as Uniswap V3, where the concept of concentrated liquidity allows for more efficient liquidity management. This deliberate and measured approach to liquidity provisioning highlights our commitment to maintaining a stable and accessible market for $GMA. It aligns with our broader aims of fostering growth and ensuring the long-term stability of the ecosystem, balancing immediate market entry needs with future viability and ecosystem health.

Liquidity Providers

Liquidity providers (LPs) are crucial for the ongoing liquidity management on the Gamma Options platform. They supply the platform with the necessary assets by locking their tokens into liquidity pools, facilitating trading by providing market depth. Subsequently they are integrated into the dynamic treasury formula. At a first instance, they will receive a fixed amount of tokens on a daily basis as extra incentives, however the dynamic treasury formula can be upgraded in order to react to the liquidity levels at any given time, therefore ensuring the long-term alignment of the LPs and the protocol liquidity requirements.

Insurance Fund

Gamma Options has established an insurance fund as a strategic measure to protect the protocol against potential catastrophic events, commonly referred to as black swan events. This fund is designed to provide a financial safety net, enhancing the resilience of the ecosystem.

The insurance fund will gradually be filled through a portion of the fees generated by the protocol. Additionally, Gamma Options introduces Insurance Fund Providers (IFPs), who are individuals willing to provide funds for the insurance fund in exchange for a percentage of the rewards as governed by the Dynamic Treasury Formula. IFPs must lock their funds for a predetermined period to access the rewards, ensuring that the long-term objectives and safety of Gamma Options are preserved.

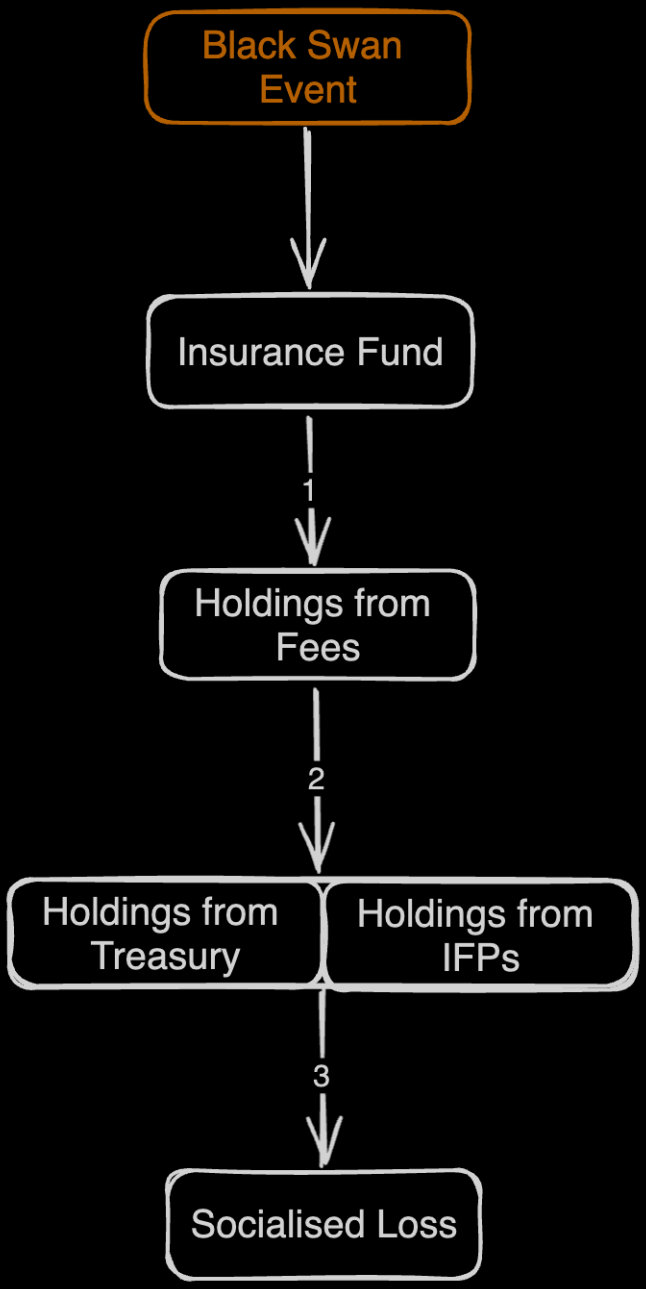
Furthermore, the treasury will also contribute a portion of its allocation to the Insurance Fund, acting as an extra layer of protection in case of a black swan event. This contribution not only enhances the fund's capacity to cover potential losses but also allows the treasury to increase its holdings as long as there are no issues, thereby strengthening the overall financial health of the platform.

The composition of the insurance fund is diversified, consisting of a blend of different assets. It includes cryptocurrencies such as ETH or USDT, collected from transaction fees, along with GAMMA tokens that are acquired through the platform’s buyback mechanism. This diversified asset allocation is crucial as it mitigates the risk of exerting excessive selling pressure on the $GMA token in the event of a market downturn or catastrophic failure, which could otherwise exacerbate the protocol's instability.

In the event that the assets held within the insurance fund are insufficient to fully cover the losses incurred during a black swan event, the protocol will implement a mechanism of socialized loss. Socialized loss is a risk management strategy that distributes the financial impact of losses across all margin pool lenders (MPLs) proportionally, based on their involvement and stake in the platform. This means that instead of a single party bearing the full brunt of the financial loss, the loss is spread out across the entire community of MPLs.

For example, if a black swan event causes significant losses that exceed the insurance fund's capacity, each MPL would incur a small, proportional share of the total loss. This proportional distribution is calculated based on the size of each lender's stake relative to the total amount of staked assets in the margin pool. By spreading the loss in this manner, the financial burden on any single participant is minimized, reducing the risk of severe financial distress for individual MPLs. The goal of socialized loss is to maintain the stability and continuity of the platform by ensuring that no single participant is disproportionately affected by unforeseen catastrophic events. This approach helps to safeguard the ecosystem's integrity and supports the long-term

sustainability of the Gamma Options platform by fostering a collective risk-sharing mechanism among its participants.



DAO & Governance

Gamma Options integrates a decentralized autonomous organization (DAO) to act as a pivotal bridge between the core development team and the broader user community, ensuring that the protocol's evolution aligns with the long-term objectives of all stakeholders. The DAO empowers holders of veGMA, a vote-escrowed governance token, to actively participate in key decision-making processes that impact the functioning and strategic direction of the protocol. Governance actions facilitated through the DAO include, but are not limited to, treasury management, restructuring fee distributions, executing buyback and burn events, and integrating new trading strategies into the platform.

For stakeholders who prefer not to engage directly in day-to-day governance activities but wish to influence the protocol's development, Gamma Options provides a mechanism for delegating their voting power. This option allows less active users to entrust their governance capabilities to designated Delegators—committed and knowledgeable community members who vote on proposals on behalf of others. This delegation system ensures that all stakeholders, regardless of their capacity or desire to participate in ongoing governance discussions, can still contribute to the platform's decision-making processes.

Within the DAO, voting extends across various operational and strategic areas, such as adopting innovative trading strategies, adjusting treasury allocations, and making other critical decisions that significantly influence the protocol's trajectory. This participatory process is crucial for maintaining an adaptive protocol that mirrors the preferences, interests, and insights of its engaged user base, thereby fostering a governance model that is both inclusive and representative.

The governance framework of Gamma Options is characterized by continuous monitoring and dynamic adjustments, responsive to shifting market conditions and evolving stakeholder behaviors. This proactive approach helps sustain a balanced ecosystem, where incentives are carefully aligned with individual and collective goals of the platform's community. Governance decisions are made according to predefined rules established within the DAO, ensuring that all changes are transparent, accountable, and broadly reflective of community consensus.

Delegators

Engaging as a delegator within Gamma Options necessitates active involvement and the establishment of a notable presence within the community. Prospective delegators should concentrate on participating regularly in discussions, providing insightful contributions, and maintaining visibility across the DAO's communication platforms.

Active participation in the DAO's initiatives and cultivating relationships with fellow members are essential for those looking to become recognized as reliable representatives within the community. Trust and visibility are paramount; as members observe an individual's dedication and expertise, they are more inclined to delegate their voting power, entrusting them with the responsibility to represent their interests in governance decisions.

Establishing a robust and active presence, not only on internal DAO platforms but also across broader social media channels, is vital for enhancing one's influence and effectiveness as a delegator. This approach fosters a transparent and accountable governance environment within Gamma Options.

Delegation Process

Initiation: Members of Gamma Options have the capability to designate a more active participant within the DAO as their proxy by delegating their voting power. This allows for a transfer of influence to the chosen delegate.

Duration: The delegated voting power remains under the control of the delegate until the originating member decides to withdraw or redirect it to another participant.

Active Votes Participation: Once delegated, the voting power cannot be retracted or redirected by the member if it is currently engaged in an active vote. This restriction ensures that the voting process is not disrupted.

Revocation: Members can reclaim their delegated voting power at any time, except during active votes. This process underscores the principle that delegation is a temporary and reversible arrangement, preserving the members' inherent rights within the DAO.

Reassignment: The system permits members to reassign their voting power to a different active participant. However, such reassignments are not permissible during active votes to maintain order and prevent any potential voting instability.

DAO Flow Diagram