

Cake Monster

A hyper-deflationary and elastic supply token that has unique reserve and reward mechanisms featuring an automated hybrid monetary policy.

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Abstract

DeFi is poised to revolutionize the financial markets by cutting out costs for intermediaries, such as banks or legal departments and offering new and compelling ways to earn interest in digital assets or gain easy and straightforward access to credit. Normally, DeFi token should aim to establish new standards in terms of transparency, access, and monetary models, but instead the majority of DeFi token is controlled by malicious actors or/and use inadequate economic models that are on the verge of implosion due to their archaic monetary policies. Interest rates fast become unprofitable for holders while emission blocks reduce to fight inflation, often leaving later entrants with an irrecoverable financial loss.

A current solution for a sustainable token ecosystem is represented by elastic supply token that aim to balance the splits between inflation and deflation of token supply through rebases, trying to solve the inelasticity problem of fixed supply token through rebases of supply and keep steady interest rates.

In this paper we present Cake Monster, a hyper-deflationary and elastic supply token that has unique reserve and reward mechanisms featuring an automated hybrid monetary policy. We describe the components that Cake Monster provides to maintain a fair, sustainable, and rewarding ecosystem. We introduce our monetary policy and reserve system, and describe Cake Monster's deflationary cycle, how it ends, and how it begins. Then we describe how the generated yield is calculated and accomplished. Finally, we will lay out our plans for the future.

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1 Introduction

DeFi tokens (Decentralized Finance Tokens) are financial applications that run on blockchains and mirror concepts that have been successfully used in traditional banking and finance. The key idea is to recreate financial services in a decentralized way without a third party, such as a bank, intervening. Instead, trust is placed in written code (smart contract) that is deployed on a blockchain network and allows interest to be earned, loans to be obtained or (synthetic) assets to be traded, and more, without relying on a third party.

If holders of a typical DeFi token want to earn high interest on staking or yield platforms, they typically have to expose themselves to several risks, such as loss of control over holdings, insecure/badly written smart contracts, and extremely volatile market conditions, coupled with an immature token economy whose value is only supported by its own underlying token and its experimental utility. In most cases, the applied monetary policy does not allow for sustainability or longevity of these projects, creating a bubble that will inevitably implode due to its corrupt and inflexible nature.

In addition, the associated gas costs and the numerous transactions/interactions that end users must initiate along the way make this system error-prone and expensive. These inefficiencies ensure that the general public cannot be effectively reached due to low accessibility, high financial risks, and general fear factors (e.g., crypto project fraud rates, unregulated markets).

The introduction of frictionless revenue generation has opened up DeFi to a wider audience, as it simplifies most user interactions via automated logic and rewards holders by passing a small portion of the protocol tax to all holders of the specific token, while another tax portion seeks to preserve token value via deflationary measures such as token burning.

But the problems that remain are the overall profitability and fair distribution of rewards, the insufficiently maintained sustainability and stability of the protocol's ecosystem (implosion/monopolization), and the inability to update the smart contract logic and the lack of an advanced and well-executed marketing strategy aimed at achieving mass adoption through high, fast, and low-cost accessibility of the project.

Cake Monster proposes a solution that combines the benefits of perpetual, easily accessible and profitable rewards for all with a smart and complex monetary solution that allows the protocol to stay healthy in all market conditions, where inelastic fixed-supply tokens are vulnerable to shocks. In addition, there is a memeable artwork design, an upgradable contract, and an overly ambitious, dedicated, and well-connected team. Supporting many investment strategies, Cake Monster is a credible financial tool for holders and traders alike and can be used, for example, as a hedge or simple speculation for short, medium, and long-term strategies.

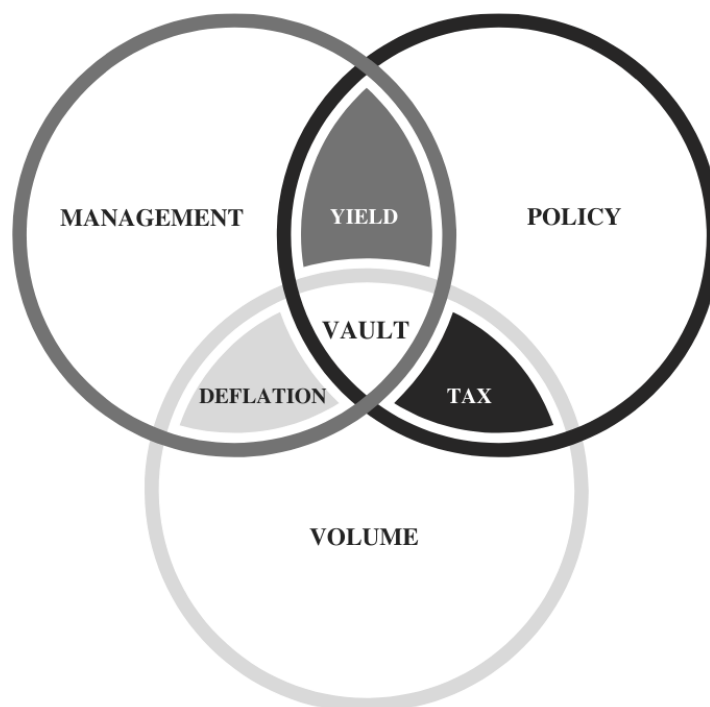
Whitepaper roadmap

In this whitepaper*, we provide an overview of the Cake Monster architecture (Section 2) and a general overview of the tax and cycle functions (Section 3). We describe Cake Monster's relaunch process (Section 4) and follow with information about the applied yield generation within the Gravity Vault (Section 5). We then describe a proposed long-term development (6). Finally, we present a legal disclaimer (7).

2 Architectural Overview

Cake Monster's core functional goal is to maintain an automated hybrid monetary policy (deflationary/inflationary) that protects its ecosystem from currency implosion through hyper deflationary cycles while generating non-native returns (\$CAKE) within its own reserve vault for native token holders. Below, we describe the architecture of each component of Cake Monster. Cake Monster will initially be built on Binance Smart Chain, but we intend to integrate it with all leading smart contract networks that support an underlying reserve asset in the future. Cake Monster was designed with modularity in mind. Every part of the Cake Monster system is upgradeable, allowing various components to be replaced as better techniques and competing implementations emerge.

The protocol logics are based on three fundamental pillars: Management, Policy, and Volume. Their interactions with each other are critical to the underlying functions and their value, feeding the vaults at the core of the economic model and using their applied functions: Yield, Tax, and Deflation.



2.1 Management (Vault)

Allows the community to:

- manage the aggregation of the reserve asset (\$CAKE) for the gravity vault.
- add locked liquidity to the LP on the DEX via temporary vault.
- cash out inactive holders and swipe dust in wallets to stay compliant to the policy.
- claim rewards generated in the gravity vault.
- re-launch the protocol when conditions are met.

2.2 Policy (Monetary)

Will allow the protocol to:

- ensure flexibility, stability, and execution of vital functionalities.
- maintain constant yield generation within the gravity vault.
- maintain the tax/burn system to ensure deflation of native supply and inflation of reserve assets within the vaults.
- maintain ever-rising price floor by adding monetary value to liquidity pool and gravity vault.

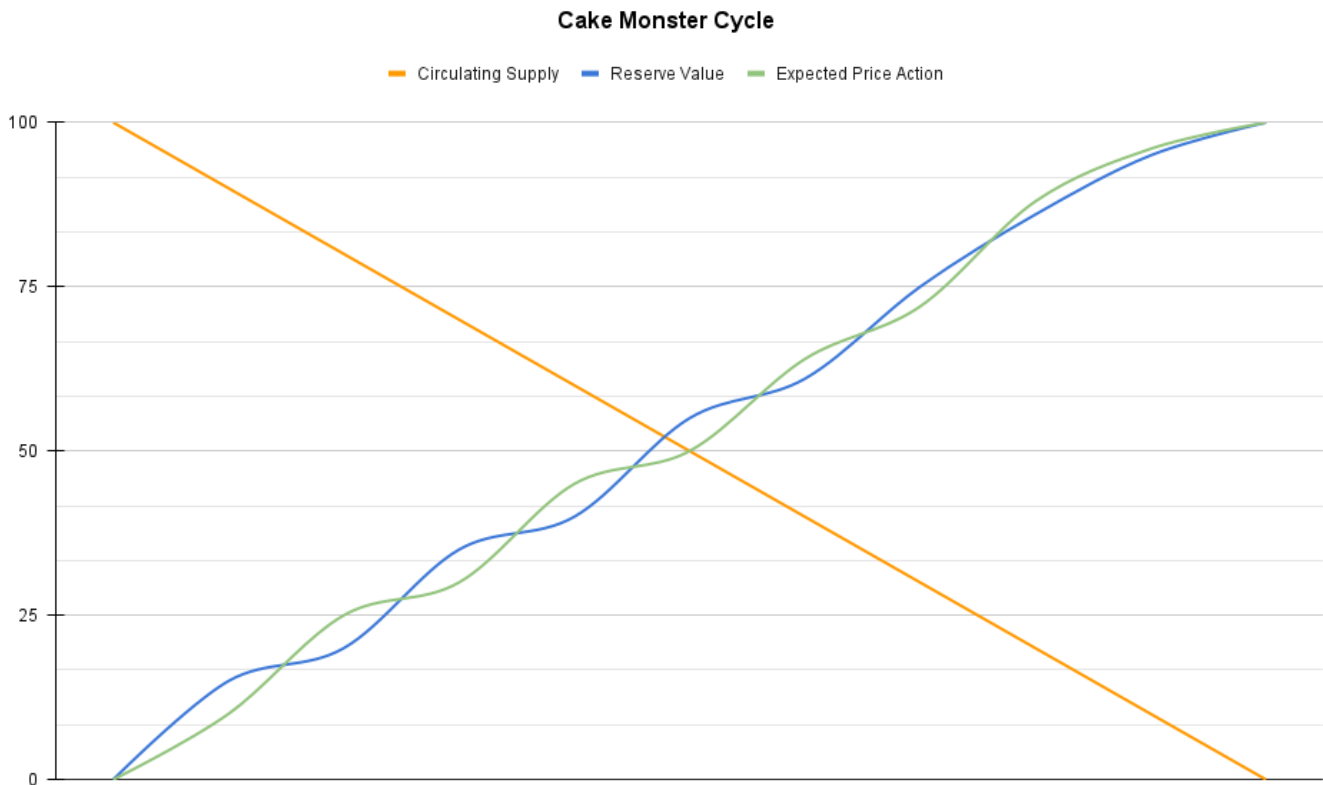
2.3 Volume

Allows the ecosystem to ensure:

- buys and sells are contributing to overall yield generation. The higher the volume, the bigger the gravity vault, the faster the deflation, the faster the native token price appreciation, the higher the yield, the faster the collectable rewards for holders.
- acceleration of the protocol value and a rising cyclic price floor.
- tax collection and deflation of supply.

3 General Overview

The Cake Monster protocol is designed to run in perpetual cycles, during which it burns off its initial supply until it reaches its programmed minimum of 1 million tokens (deflation rate per cycle 99.99%). At the same time, it builds up a protocol backing reserve (Gravity Vault) containing \$CAKE, which acts as price anchor and makes itself available as a sophisticated reward system for holders of the native \$MONSTA token.



3.1 Tax System

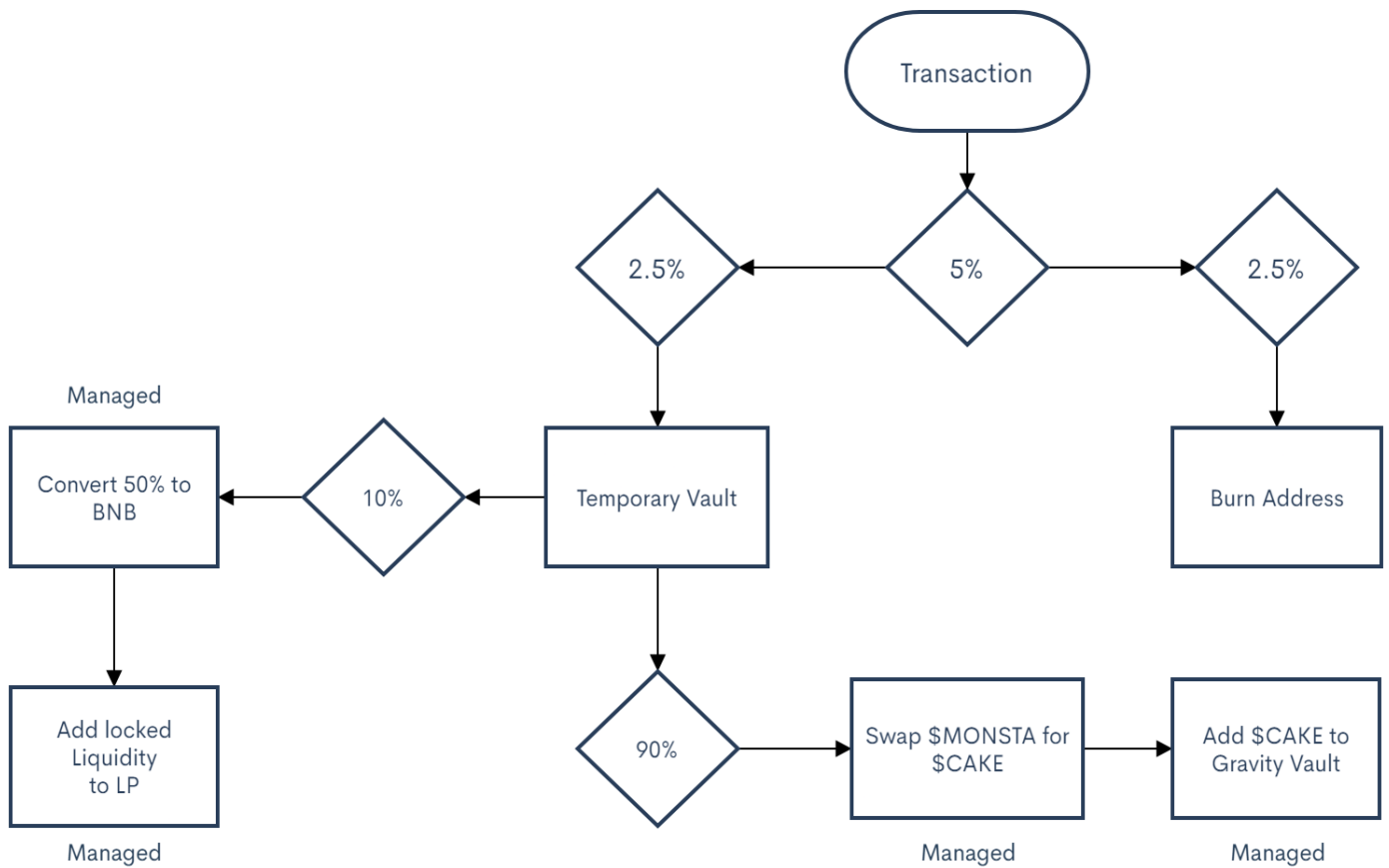
The protocol monetary policy uses a total tax of 5% on each transaction (sale, purchase, transfer). A portion of the protocol tax (2.5% per TX) is used to replenish the temporary vault with \$MONSTA tokens. This vault acts as a proxy between the Blockchain (BSC) and the Gravity Vault, which holds \$CAKE in reserve and has the following tasks:

Temporary Vault

1. Add a portion of \$MONSTA (10%) as locked liquidity to the Pancake Swap liquidity pool (50% converted to BNB, 50% \$MONSTA)
2. Swap \$MONSTA for \$CAKE and add \$CAKE to the Gravity Vault (MONSTA > WBNB > CAKE)

Another part of the protocol taxes (2.5% per TX) is used to burn \$MONSTA forever.

Tax Flowchart



Only 5% is taxed on each transaction (2.5% Vault Tax, 2.5% Burn Tax)

3.2 Cycle and Functions

A protocol cycle is controlled by two distinct and rewarding functions (Vault Management, Auto-Cash Out) that can be called by anyone once certain parameters are met. An additional function promises recurring \$CAKE rewards for \$MONSTA holders (Base Reward).

- Vault Management
- Automatic Cash Out
- Base Reward

Vault Management

If the temporary vault (collecting \$MONSTA through tax) has grown bigger than 0.01% of the current total supply, the VAULT MANAGEMENT function becomes available and can be called by anyone that is connected to the dashboard (Vault progress is visible on the dashboard). This function triggers the following chain of events, executed by the smart contract:

1. 10% of the \$MONSTA balance is added to the Pancake Swap locked liquidity pool (50% converted to BNB, 50% \$MONSTA)
2. 90% of \$MONSTA from the temporary vault is swapped for \$CAKE, which is then added to the \$CAKE Gravity Vault (Smart Contract)

More details...

- A vault manager receives a minted reward of 1% of the total current temporary vault value in \$MONSTA.
- Vault manager queue size = 10 — To prevent spamming on this function, each managing wallet address is added to a list of vault managers. Vault managers on this list will be blocked from calling the VAULT MANAGEMENT until they move out of that list because of following vault managers.

Example

- The current supply is 10 billion \$MONSTA.
- The Temporary Vault is filled up with 1 million \$MONSTA (0.01% of total supply).
- The “Manage Vault” function becomes available on the dashboard.
- The connected user initiates the transaction to manage the vault.
- After a successful transaction, the user gets a minted reward of 10,000 \$MONSTA (1% of the 1 million \$MONSTA in the Temporary Vault).
- Locked liquidity is added to the LP, \$CAKE is bought and added to the Gravity Vault.

Base Reward

Each time the current total supply of \$MONSTA has decreased by 1%, owners are entitled to a base reward (or crumbs) of \$CAKE from the Gravity Vault equal to their current supply compared to the total supply:

- The total base reward is 25% of the Gravity Vault (\$CAKE) aggregated since the previous snapshot.
- A holder should claim the rewards before the next snapshot takes place (after an additional 1% supply is burned).
- Unclaimed rewards flow back into the Gravity Vault (\$CAKE).

Example

- A user holds 1% of the total supply (100 million \$MONSTA at 10 billion supply) when the Base Reward becomes available.
- If the Gravity Vault has collected \$1 million worth of \$CAKE since the last 1% deflation, a total of \$250.000 (25%) worth of \$CAKE will become claimable for holders.
- The user holding 1% of the total supply (100 million \$MONSTA) will be eligible to receive 1% of the \$250.000 worth of \$CAKE from the Gravity Vault Base Reward (\$2,500)

Automatic Cash Out

If no $\geq 5\%$ action (buy/transfer/sell) is recorded from a bearer wallet for 50 consecutive days, the AUTOMATIC CASH OUT function can be triggered by anyone. This measure is essential to the hyper-deflationary logic of the protocol, and without it the targeted end supply would never be reached.

- Swaps 95% of the holders \$MONSTA tokens for BNB, which will be returned to the holder.
- Transfers 5% of the holders \$MONSTA tokens as reward to the caller of this function.
- The swapped \$MONSTA token will be burned out of the LP.
- If the holders \$MONSTA token value is too low to sell, the function will just burn the tokens (100%) out of the bearer wallet instead of selling it.
- Liquidity provided to the original BNB/MONSTA liquidity pool on Pancake Swapv2 is whitelisted for this function and therefore cannot be disbursed.

Example

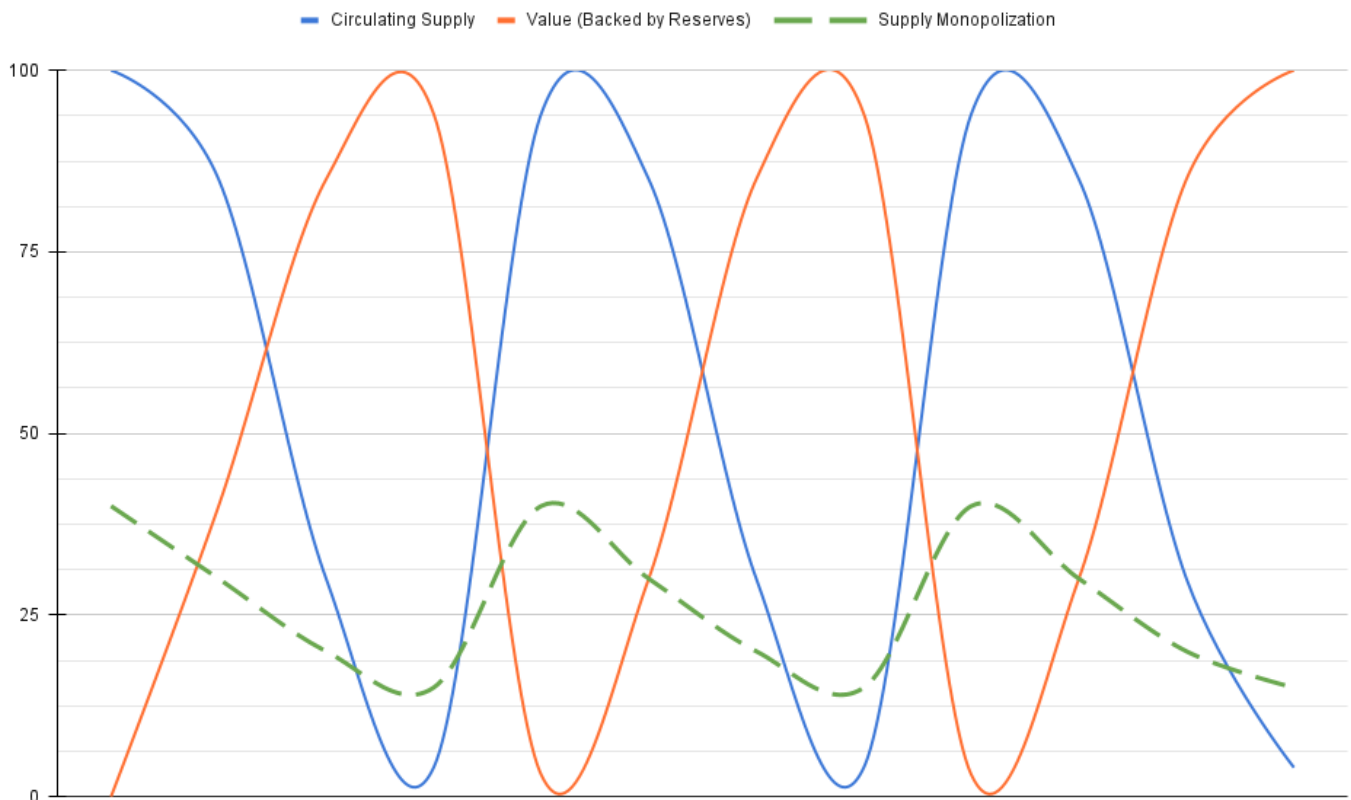
- A user bought 5 million \$MONSTA on June 19.
- 50 days later, that same user did not buy/sell/transfer a minimum of 5.01% of their holdings. They are 'inactive' .
- Another user goes to the Cake Monster dashboard and cashes out this inactive user.
- Since the user holds 5 million \$MONSTA, the caller of the cash out function will earn 5% of the users 'holdings (250,000 \$MONSTA)

- The inactive user will get the \$BNB value for the rest of the holdings (95%). This is done by selling their \$MONSTA for \$BNB.
- The sold 4.75 million \$MONSTA (95%) residing in the LP will then be burned, to reduce price impact and ensure general deflation.

4 Relaunch Process

The end of the protocol cycle is controlled by three different functions that can be called by anyone. It basically rewards all holders with their share of the gravity vault, relaunches the protocol and protects the ecosystem from monopolization or implosion.

- Finish
- Claim Gravity Vault
- Relaunch



Finish

If supply \leq end supply (1,000,000) the CLAIM GRAVITY VAULT function becomes available to anyone, and all trading will be halted.

- The collected liquidity from the LP will be removed and temporarily stored in the smart contract.
- The FINISH function becomes also available when two years have passed since protocol launch/relaunch.
- The FINISH function becomes also available when there is no vault management activity for 124 days since protocol launch/relaunch.

Claiming Gravity Vault

For 35 days anyone can claim their share of \$CAKE, equivalent to their \$MONSTA holdings versus total supply at the time of trading halt.

- Upon claiming all \$MONSTA tokens in the bearer wallet will be swapped for the \$CAKE from the Gravity Vault and will be burned hereafter.
- Unclaimed \$CAKE stays in the contract and will be used to support the upcoming protocol cycle.

Example

- Minimum supply of 1 million \$MONSTA is reached.
- The Gravity Vault is worth \$100 million \$CAKE.
- A user owns 1% of the total supply (10000 \$MONSTA at 1 million supply)
- They are eligible for \$1 million of \$CAKE.

Relaunch

After 35 days claiming period the RELAUNCH function can be called by anyone to kickstart a new cycle.

- Supply will be minted back to the initial of 10,000,000,000 (10B)
- Adds liquidity previously stored in the contract back to the LP to relaunch the protocol.
- The holders of the previous cycle receive the shares back with which they claimed their \$CAKE.
- * IMPORTANT: Holders which have not claimed their reward will lose their reward and will not get re-minted tokens relative to the initial supply. Unclaimed \$CAKE rewards will be used for the upcoming deflationary cycle.

5 Yield Generation

The yield is generated via the growth of the Gravity Vault (reserve asset: \$CAKE) and the total deflation happening within a calculated timeframe of one month, which is then compounded over 12 months.

Formula

cakegrowthover30d% + monsterdeflationover30d% - protocol tax (0.15% over 30d)
= monthly growth (then compound over 12m) = APY

Code

```
const totalBurnedPct = 100 - (supplyLast / supplyFirst) * 100;

const reserveGrowthPct = (reserveBalanceASSETLast /
reserveBalanceASSETFirst) * 100 - 100;

let monthlyRate = (reserveGrowthPct + totalBurnedPct - 0.15) / 100;

let v = 1;

for (let i = 1; i <= 12; i++) {
  v = v * (1 + monthlyRate);
}

setApyPct((v - 1) * 100);
```

Friction or Frictionless

The generated yield is frictionless for the most part, as holders do not have to stake or farm for potential \$CAKE rewards, and thus do not have to give up control of their holdings or go through the hassle of a lot of interactions and transactions.

However, the \$CAKE base rewards must be collected by holders on the Cake Monster dashboard as they become claimable within a snapshot range determined by trading volume and subsequent token deflation. As previously mentioned, this happens every time the total supply decreased by 1% since the last base reward round. Holders must also claim their gravity vault share once minimum supply is reached.

6 Long-Term Technical Strategy

The long-term technical strategy for Cake Monster proposed in this whitepaper includes four key directions: Gamification & NFT Art, Infrastructure Changes, General Expansion and Charity.

Gamification & NFT Art

We plan to develop sophisticated gameplay and art aspects for the project that will help engage the community and add value through professional artwork designs and an intertwined gameplay system for holders of the Cake Monster token. This would include the development of collectible NFTs (3D and augmented reality) that can have digital (dividends, bonds) and physical value.

Infrastructure Changes

Cake Monster was built to become a community project. And, as such, we plan to build a DAO around Cake Monster and hand the project over to the community. We will ensure that, from our perspective, everything necessary is in place by then so that we can say with a clear conscience that the project is safe and sound.

We plan to build an intra-exchange (Monster Swap) to help the community swap other reserve assets, native tokens or NFTs for benefits.

General Expansion

We plan to expand our reach to other promising blockchains (multi-chain) that support a reserve asset in use of this project or another project we are developing or partnering with. Cake Monster can easily be spread to more chains.

Charity

When Cake Monster is established, we plan to create Cake Monster For Good. An initiative that sees Cake Monster committing to bespoke charity programs, decided by the community, to combat mental health, inequality, abuse, poverty, and any other endeavor the community decides.

7 Legal Disclaimer and Risk Caution

Participating in an IDO is a high-risk activity. This IDO is intended only for experienced professionals who are familiar with blockchain technology, cryptocurrency trading and trading in other marketing tools. By participating in this IDO, the Buyer is aware of and accepts the risks related to security, possible failure to achieve technical and economic results, and total or partial loss of its capital. Finally, the Buyer declares to be aware of the legal uncertainty of this type of transaction and to have carried out its own legal consultation in accordance with the applicable law to which it is subject. The Token does not in fact grant any financial (income, capital, or dividend) or voting rights in the project. The Token is a crypto asset issued by the Decentralized Autonomous Platform (Project) through the IDO and used by Cake Monster team members and the community. No other rights are transferred to the IDO. More specifically, the only obligation of the Project is to distribute the Cake Monster token under the conditions defined in the official publications.

Sales restriction

Due to national legislation, participants from the following countries are not allowed to participate in the IDO: "U.S. person" (according to this definition), Canada, South Korea, Burma, Ivory Coast, Cuba, Democratic Republic of Congo, Iran, Iraq, Liberia, North Korea, Sudan, Syria and Zimbabwe, Singapore, and China. This prohibition applies to all types of persons (moral, physical, agents, etc.) and to any indirect participation (through an agent, registered loan, limited liability company, etc.). By participating in the IDO, the buyer agrees to the legal disclaimer and to collectively respect the above provisions.

Warnings

IDOs are high risk operations due to their experimental nature. By participating in this operation, participants declare that they understand and assume the following risks:

- the lack of regulation: the buyer agrees not to take advantage of any guarantees associated with IPOs in regulated financial markets or other regulated financial investments.
- Capital loss: the buyer accepts the risk of full or partial capital loss in cryptocurrency or in the token.
- Volatility or market risk: the value of Tokens, just like cryptocurrencies in general, can be extremely volatile and subject to significant and largely unpredictable fluctuations.

In addition, the market, or markets in which these tokens are traded do not offer the same guarantees that generally apply to traditional financial markets.