

# Goes Up Higher (GUH)

## *Draft*

### Abstract

Goes Up Higher (GUH) is a first of its kind elastic autonomous community token with renounced ownership. The supply is both contractually and mathematically guaranteed to increase in price until it exceeds the price of bitcoin, derived from the BTC/BNB pair. GUH makes use of the elastic supply mechanism to dynamically adjust supply to meet an increasing Price Peg. The Peg begins at \$.001 and increases 5.00% every 4 hours for 360 epochs, at which point it will peg to the then current market price of Bitcoin plus 1% every 4 hours.

## 1 Introduction

Historically, currency rebases were used during or after periods of hyperinflation in order to reduce the nominal value of your wallet, and psychologically influence its users to view the event as the end of hyperinflation. In contrast, GUH uses rebases not to influence your mind, but to Go Up Higher.

GUH is unique in its mechanism with no other token on the market operating on similar principles. The contract mathematically guarantees a constant price increase over time, reaching the price of bitcoin in 60 days. This process is entirely automatic after the first supply-adjustment is called. All the initial liquidity will be permanently locked via burning, with contract ownership being renounced shortly thereafter.

GUH uses an initial target price of \$.001 as the peg, with its price increasing by 5.00% every four hours, and expands or contracts the circulating supply depending on where the current trading price is relative to the peg price. After the 360 epochs of 5.00% price increase GUH switches to an oracle contract which sets the peg to the current market price of Bitcoin plus 1% at the same interval of 4 hours. This continual adjustment of circulating supply according to a peg guarantees that the price per token will exceed that of Bitcoin.

## 2 Protocol

An elastic supply (or rebase) token works in a way that the circulating supply expands or contracts due to changes in token price. This increase or decrease in supply works with a mechanism called re-basing. When a rebase occurs, the supply of the token is increased or decreased algorithmically, based on the current price of each token.

In some ways, elastic supply tokens can be paralleled with stablecoins. They aim to achieve a target price, and these re-base mechanics facilitate that. However, the key difference is that rebasing tokens aim to achieve it with a changing (elastic) supply. GUH differs by having an increasing peg price, an upcoin.

Supply-elastic tokens work differently. As mentioned, the re-basing mechanism adjusts the token circulating supply periodically. Let's say we have an elastic supply token that aims to achieve a value of 1 USD. If the price is above 1 USD, the re-base increases the current supply, reducing the value of each token. Conversely, if the price is below 1 USD, the re-base will decrease the supply, making each token worth more.

What does this mean from a practical standpoint? The amount of tokens in user wallets changes if a re-base occurs. Let's say we have Rebase USD (rUSD), a hypothetical token that targets a price of 1 USD. You have 100 rUSD safely sitting in your hardware wallet. Let's say the price goes below 1 USD. After the rebase occurs, you'll have only 96 rUSD in your wallet, but at the same time, each will be worth proportionally more than before the rebase. The idea is that your holdings proportional to the total supply haven't changed with the rebase. If you had 1% of the supply before the rebase, you should still have 1% after it, even if the number of coins in your wallet has changed. In essence, you retain your share of the network no matter what the price is.

### 2.1 Protocol Parameters

- **exchangeRate**  $\rightarrow$   $TWAP(GUH/BNB) / TWAP(BNB/BUSD) = (GUH/BUSD)$
- **targetRate**  $\rightarrow targetRate * 1.05^{epoch}$
- **deviationThreshold**  $\rightarrow$  If the current exchange rate is within this fractional distance

from the target, no supply

update is performed 5% if  $< 360$  epochs, else BTC price if  $> 360$  epochs

- **rebaseCooldown** → More than this much time must pass between rebase operations.
- **lastRebaseTimestampSec** → Block timestamp of last rebase operation in seconds
- **epoch** → One every 4 hours

## 2.2 Price Oracle

A price oracle is any tool used to view price information about a given asset. When you look at stock prices on your phone, you are using your phone as a price oracle. Similarly, the app on your phone relies on devices to retrieve price information - likely several, which are aggregated and then displayed to you, the end-user. These are price oracles as well.

When building smart contracts that integrate with DeFi protocols, developers will inevitably run into the price oracle problem. What is the best way to retrieve the price of a given asset on-chain?

Many oracle designs on Binance Smart Chain have been implemented on an ad-hoc basis, with varying degrees of decentralization and security. Because of this, the ecosystem has witnessed numerous high-profile hacks where the oracle implementation is the primary attack vector. A Time-Weighted Average Price (TWAP) is used to mitigate common attack vectors

Pancake V2 enables developers to build highly decentralized and manipulation-resistant on-chain price oracles, which serve the purpose of trustlessly providing pricing data to the protocol.

## 2.3 Example Peg Price Schedule

May 10th - \$.001

May 17th - \$.008

May 24th - \$.06

May 31st - \$.47

June 7th - \$3.63

June 14th - \$28.17

June 21st - \$218.63

June 28th - \$1696.89

July 5th - \$13170.57

July 12th - Bitcoin price + 1%

## 3 Contracts

- **Guh** ERC20 token code and re-basing mechanism
- **Master** Triggers GUH re-bases, re-basing helpers, keeps track of protocol parameters, updates market-price TWAP, and consumes market oracles
- **IOracle** Oracle Definition
- **MarketOracle** Retrieves the current market price of Guh in USD terms, maintains TWAP
- **MarketOracleBTC** Retrieves the current market price of BTC in USD terms, maintains TWAP

## 4 Predictions

Goes Up Higher token, as the name suggests, will continuously rise in price, uncorrelated to the greater market. After 60 days from launch GUH will peg to the price of Bitcoin, plus one percent, every 4 hours, forever. The question is then posed whether GUH's inherent value relevant to Bitcoin, which it is pegged to, will inherit its returns. Whether this happens or not depends purely on speculative forces and market psychology. We can assume that

there may be some correlation to the pegged price returns, although as with any speculative asset, only time can truly tell!