HCR-Token: Hyperdimensional Collapse & Rebirth

1. Introduction

1.1 Problem and Solution

In the cryptocurrency world, there are two extremes: inflation and token scarcity. Many projects face issues such as:

- Excessive token issuance, leading to devaluation.
- Overburning of tokens, causing liquidity loss and economic stagnation.

HCR-Token (Hyperdimensional Collapse & Rebirth) introduces a new economic model with cyclical regulation. Unlike traditional tokens with fixed issuance, HCR-Token goes through 4 dynamic phases, adapting to market conditions.

1.2 How It Works?

HCR-Token self-regulates through a mechanism called Hyperdimensional Collapse. Instead of simple inflation or deflation, the token cycles through different states, balancing supply and demand.

Key principles:

✅ The economy shifts dynamically based on user activity.

✅ Prevents loss of value due to inflation or deflation.

✅ All processes are transparent and governed by a DAO.

2. Token Evolution Phases

HCR-Token passes through four stages, regulated by a smart contract:

🔷 Phase 1: Expansion (Big Expansion)

📌 What happens?

- Token supply grows through staking, mining, or other mechanisms.
- Transaction fees are minimal to encourage adoption.

📌 When does the next phase start?

The phase ends when the total supply reaches a predefined threshold (T_threshold).

🔷 Phase 2: Dilution (Dimensional Tear)

📌 What changes?

- Token issuance slows down gradually.
- Transaction fees adjust dynamically based on market activity.

📌 How does this work?

Token emission follows the formula:

$$R_t' = R_t \times e^{-\lambda t}$$

where:

- R_t – the rate of token issuance at time t .
- R_t' – the new rate of issuance after adaptation.
- λ – the adaptation coefficient, depending on user activity and liquidity.

🔷 Phase 3: Hyperdimensional Collapse

📌 Key mechanisms:

- Tokens are not completely destroyed, but instead:

✅ Voluntarily transferred into a special staking pool.

✅ DAO votes to burn lost tokens from inactive wallets.

✅ Some tokens are converted into the new version.

📌 Regulation formula:

$$T_{collapse} = \alpha T_{pool} + \beta T_{DAO} + \gamma T_{convert}$$

where:

- $T_{collapse}$ – the total number of tokens participating in the collapse phase.
- T_{pool} – tokens voluntarily sent to a special pool by users.
- T_{DAO} – tokens burned through DAO voting.
- $T_{convert}$ – tokens converted into the new version.
- α, β, γ – coefficients defining the proportions of each process.

🔷 Phase 4: Rebirth (Hyper-Rebirth) with L1 + L2 Integration

📌 What happens?

- A new cycle starts with revised economic parameters.
- Tokens are redistributed among active users.
- New tokens are issued on two blockchain layers: Ethereum (L1) and L2 (Polygon, Arbitrum, Optimism).

📌 How does token issuance work?

$$T_{new} = \delta T_{convert}$$

where:

- T_{new} – the total number of new tokens issued in the rebirth phase.
- $T_{convert}$ – tokens converted from the previous cycle.
- δ – the conversion coefficient determined by DAO.

📌 How does the L1 + L2 system work?

✅ Tokens on L1 are locked and partially burned before the new phase starts.

✅ New tokens are minted and distributed across both L1 and L2.

✅ Users can transfer tokens between layers using blockchain bridges.

3. Decentralized Governance (DAO)

✅ Voting on token parameters – issuance, coefficients, liquidity.

✅ Phase transition control – DAO can speed up or slow down phase shifts.

✅ Economic model adjustments – users can modify emission formulas.

4. Technical Implementation

4.1 Automatic Phase Transitions

- Smart contract tracks key parameters (issuance, liquidity, activity).
- If conditions are met, the smart contract automatically shifts the phase.
- DAO intervention is possible, if adjustments are needed.

4.2 Token Burning in L1 and L2

- On L1 – tokens are locked and destroyed to maintain balance.
- On L2 – the smart contract burns equivalent amounts via bridges.

4.3 Token Redistribution in Rebirth

- Users who participated in Collapse receive new tokens based on DAO-defined ratios.
- Some tokens remain in liquidity pools to support the new cycle.
- Users can freely move tokens between L1 and L2 using blockchain bridges.

5. Use Cases

✅ DeFi – an innovative staking and liquidity model.

✅ GameFi – integration into NFT games with cyclical economies.

✅ DAO – token used as a governance tool for decentralized projects.