



CO₂ Token Whitepaper

Tokenizing CO₂ - A Blockchain-Based, Transparent, and Market-Driven Digital Commodity



1. Purpose & Definition

→ 1 CO₂T = 1 kg of Stored CO₂

- ◆ The CO₂ Token (CO₂T) represents a tangible unit of carbon dioxide captured from nature. Each CO₂T corresponds to 1 kg of CO₂, creating a direct, measurable link between real-world impact and digital token issuance.

→ Decentralized Digital Commodity

- ◆ Developed within the ECB Dynamics smart contract, CO₂T functions as a verifiable digital commodity—ensuring precise, auditable tracking of captured CO₂.

→ Alternative to ETS

- ◆ Our system provides a decentralized, transparent alternative to traditional emissions trading schemes (ETS) by directly linking token minting to measurable CO₂ capture.

2. Sources of CO₂ & Production Model

→ Land-Based CO₂ Capture

- ◆ Initial Example - Ecobal Holding: 143 ha pilot land, each hectare capturing ~10,200 kg CO₂/year.
- ◆ Scalable & Decentralized: Any eligible landowner can participate via usufruct rights, increasing total CO₂ capture capacity.

→ Annual CO₂T Production

- ◆ $143 \text{ ha} \times 10,200 \text{ kg CO}_2/\text{ha}/\text{yr} = 1,458,600 \text{ CO}_2\text{T}/\text{yr}$

This figure reflects the pilot's measurable capacity and will grow as new lands are onboarded.

3. Production, Distribution & Staking

→ Minting Process

- ◆ CO₂T tokens are minted periodically based on aggregated, verified data from registered land areas, tying issuance directly to actual CO₂ capture.

→ Staking-Driven Distribution

- ◆ Only staked ECB tokens qualify for CO₂T rewards. Newly minted CO₂T tokens distribute proportionally to each staker's share of the total staked ECB supply.

→ 20% Reserve Integration

- ◆ Ecobal Holding retains 20% of ECB tokens, ensuring a consistent share of CO₂T (and METH) rewards to support ecosystem sustainability and future expansion.
-

4. Decentralized Commodity Model & Open Participation

→ Open Land Participation via Usufruct

- ◆ Landowners retain usage rights while tokenizing environmental benefits through usufruct agreements.

→ Transparent, Market-Driven Valuation

- ◆ CO₂T's value is determined by decentralized market dynamics, reflecting actual CO₂ capture and offering a clear alternative to ETS.
-

5. Roadmap & Future Extensions

→ Immediate Focus

- ◆ Finalize CO₂T minting integration with robust verification protocols (third-party audits, remote sensing).
- ◆ Streamline staking and reward distribution.

→ Expansion & Scalability

- ◆ Onboard additional landowners via usufruct to expand CO₂ capture capacity.
- ◆ Develop advanced smart contracts to optimize staking and distribution.

→ Ecosystem Growth

- ◆ As participation grows, CO₂T production will increase, reinforcing our decentralized, market-driven model as a compelling ETS alternative.
-

6. Disclaimer

→ Technical Overview Only

- ◆ This whitepaper provides a technical framework for CO₂T issuance and use. It does not constitute financial advice or an investment recommendation.

→ Evolving Framework

- ◆ Details may be updated as the ecosystem evolves with new partnerships, technologies, and regulatory developments.



7. Appendices

A. CO₂ Certification Details

- **Certification Source:** Poznan University of Life Sciences
- **Sequestration Data:** ~10,200 kg CO₂/ha/yr
- **Pilot Land:** 143 ha yields ~1,458,600 CO₂T/yr

B. Glossary

- **CO₂T:** Carbon Dioxide Token
- **ECB Token:** Meme utility token used for staking to earn CO₂T
- **Usufruct Rights:** Legal mechanism allowing landowners to retain usage while tokenizing sequestration benefits
- **Burn Mechanism:** Process to retire CO₂T tokens representing actual offset