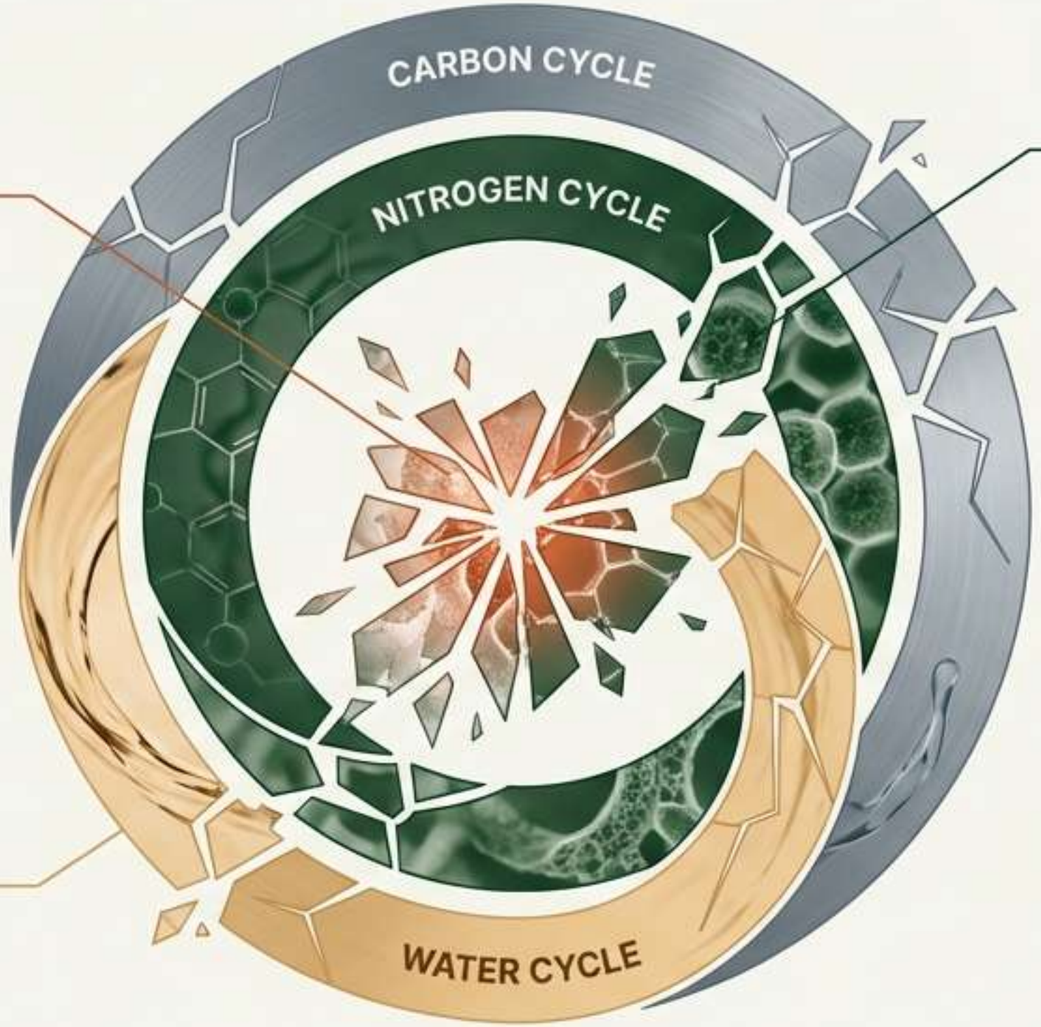
From Net Zero to a Bio-Positive Civilization

Powered by MBT55: The prototype for an Emergence-Inducing Nature-Based Solution (Ei-NbS).

A Single Systemic Failure of Earth's Metabolic Cycles

Climate change, soil degradation, food security, and health disparities are symptoms of a singular Metabolic Crisis.

Current methods (like physical carbon sequestration) are single-process and fail to regenerate the broader ecosystem.

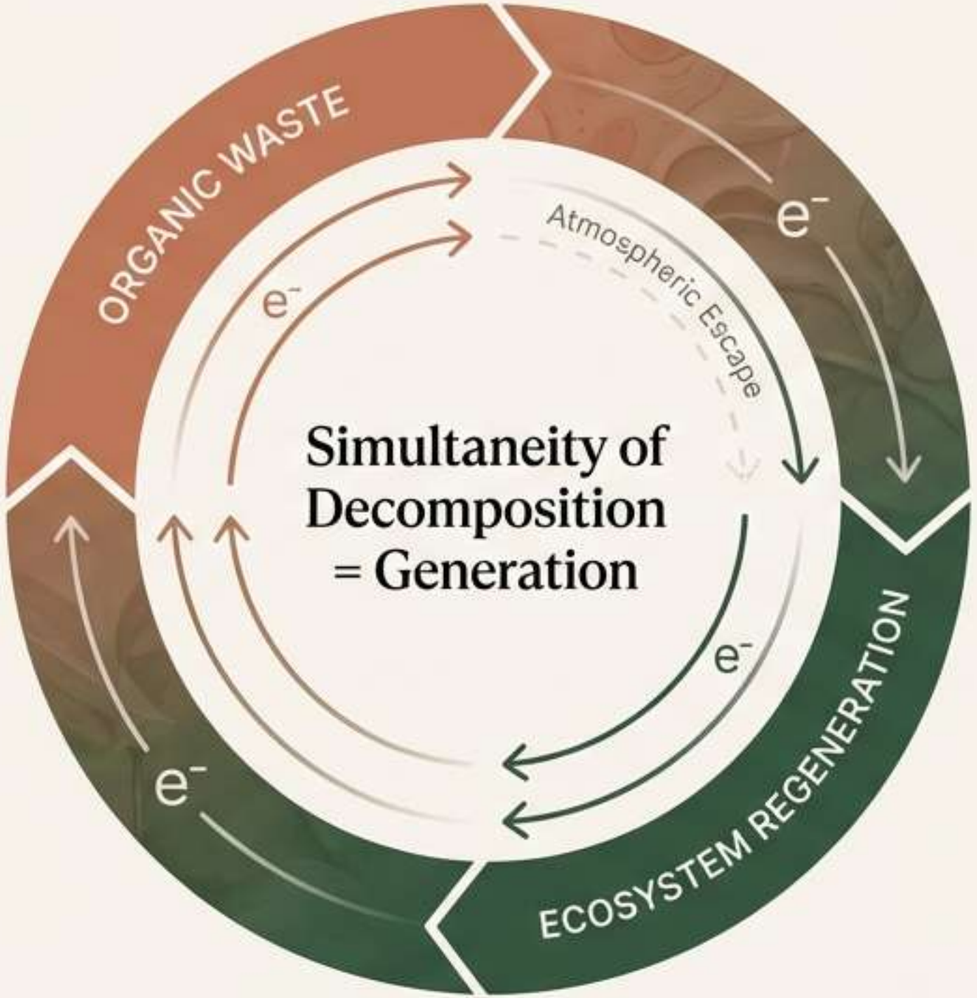


A Single Systemic Failure of Earth's Metabolic Cycles

Climate change, soil degradation, food security, and health disparities are symptoms of a singular Metabolic Crisis.

WASTE TREATMENT & FOOD LOSS CURRENTLY ACCOUNT FOR ~10% OF GLOBAL GREENHOUSE GAS EMISSIONS

Reconnecting the Biosphere's Self-Repair Capabilities



Official Definition: MBT55 (Microbial Bio-Transduction System 55) is a microbial consortium-based biotransduction engine that transforms flows of matter, energy, electrons, and information.

Transcend the dualism of oxidation vs. reduction and nature vs. technology.

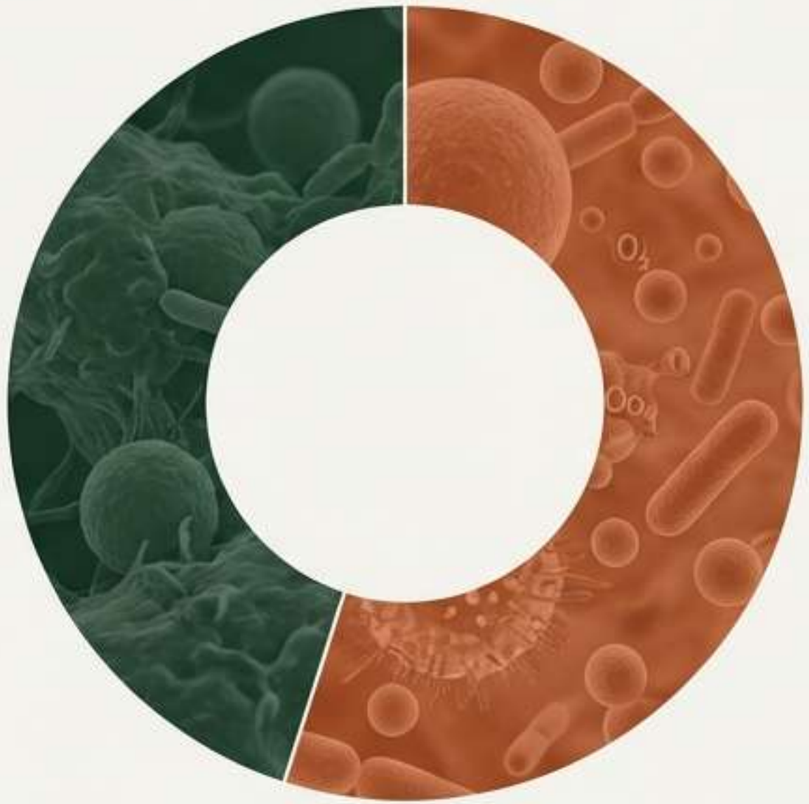
Threefold Effect:

- Scientific Reconnection (electron pathways)
- Social Reconnection (circular community economy)
- Economic Reconnection (carbon credits + cost reduction)

The 120-Species Microbial Network and the 55/45 Balance

45% Anaerobic Group

Fermentation, Denitrification, CH4 suppression, NH4+ regeneration, carbon stabilization.

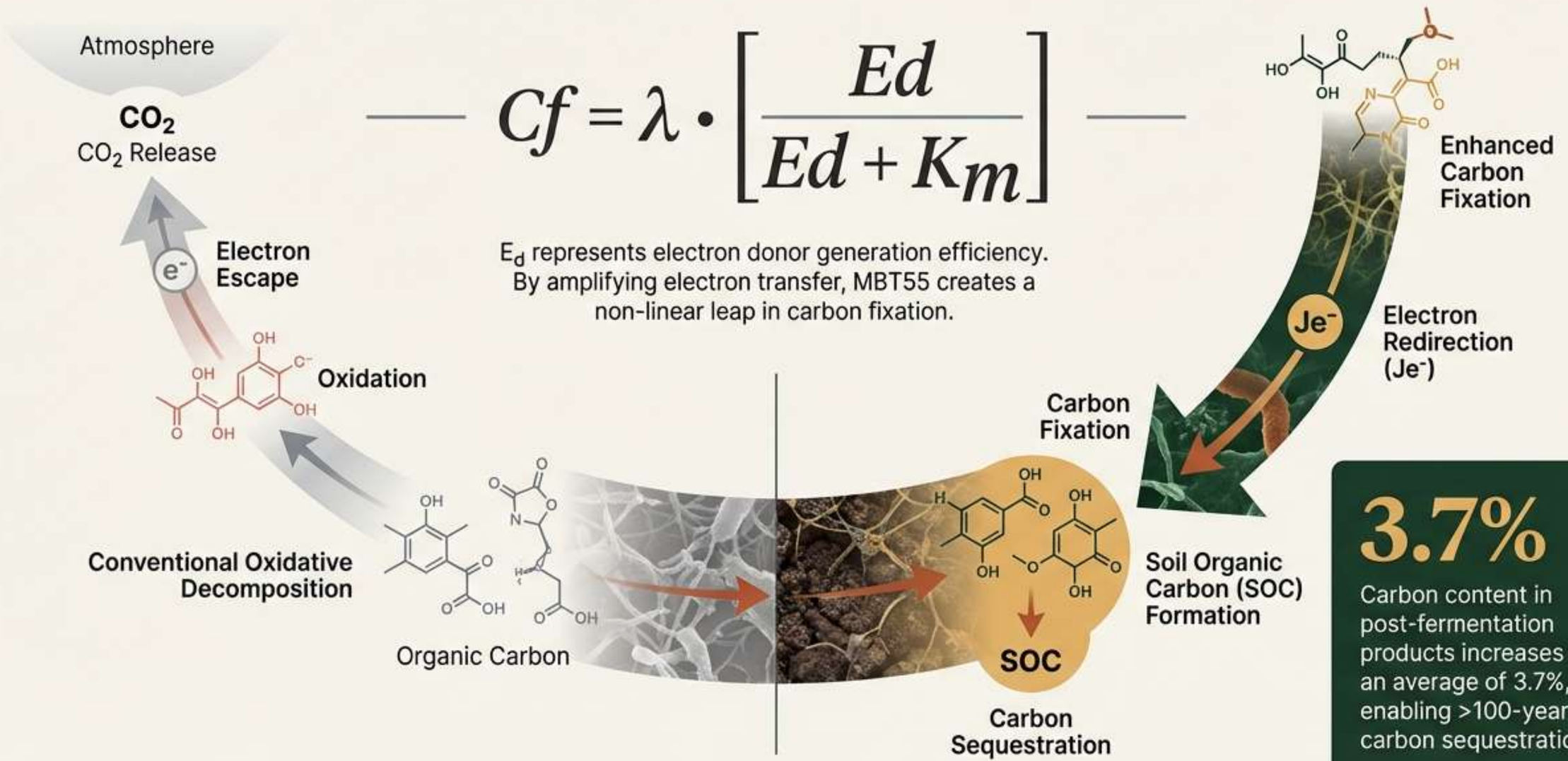


55% Aerobic Group

Oxidative respiration, CO2 generation, pH control, redox buffering.

Starch Decomposers	Protein Decomposers	Lipid Decomposers	Cellulose Decomposers
saccharification	ammonia generation	electron donor generation	SOC precursor generation

Reversing the Electron Flow to Fix Organic Carbon



3.7%

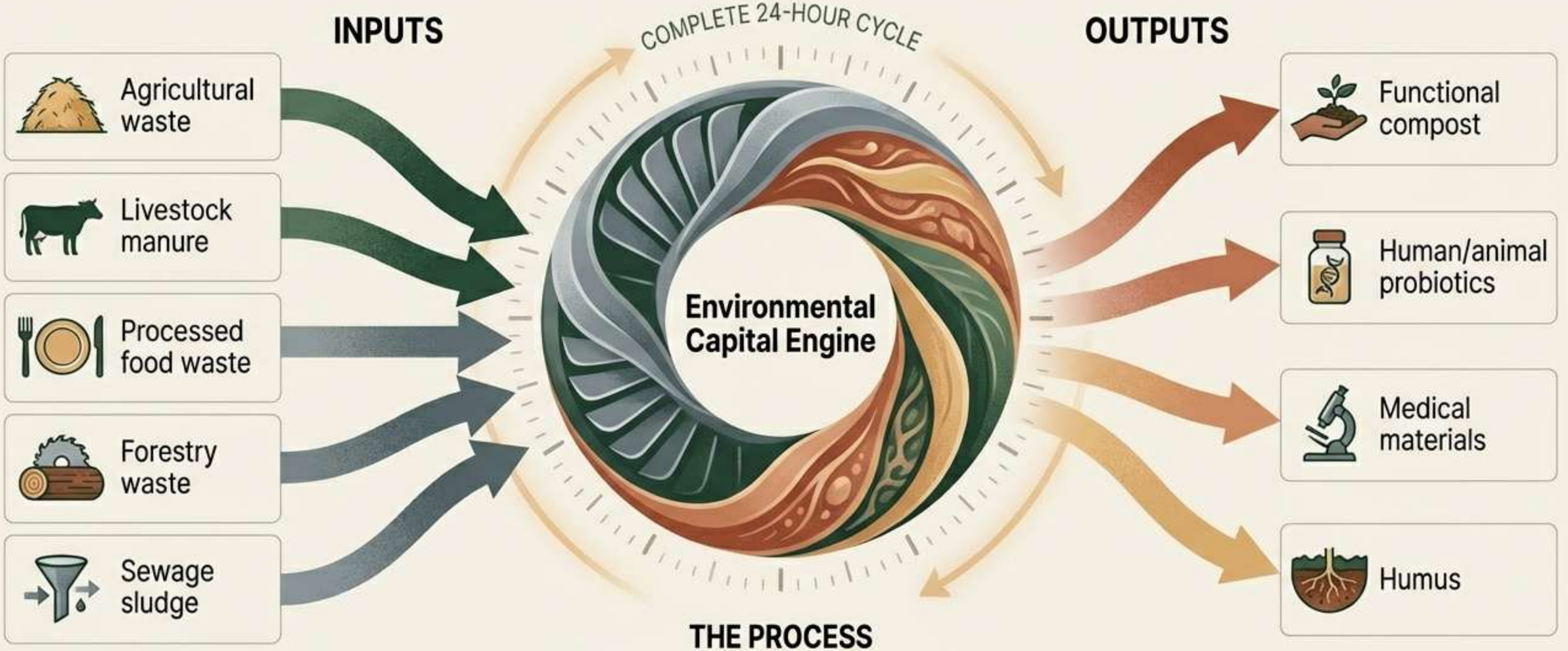
Carbon content in post-fermentation products increases by an average of 3.7%, enabling >100-year scale carbon sequestration.

A Category of One in Ecological Engineering Platforms

Technology	Carbon Fixation	Microbial Diversity	Economic Viability
Conventional Compost Decomposition-dominant, low stability	Low	Medium	High
Biochar High stability, limited biological function	High	Low	Medium
Enzyme-Added Compost Short-term conversion	Medium	Medium	Medium
MBT55	Maximum	Maximum	Maximum

MBT55 integrates biological,化学和物理过程以完全重新设计碳循环。

The MBT Sustainable Cycle (MSC) Hardware Integration



THE PROCESS

Complete 24-hour fermentation and decomposition driven by the M3-BioSynergy System.

Mapping to Socio-Economic Structure via the Eco-Hypercycle

Biophysical Cycle (Material Layer)

Waste -> Decomposition -> Recycled Resources. Evaluated by SOC formation and methane reduction.

Bio-Informatic Cycle (Information Layer)

Azure-based AI system executing Distributed Data Assimilation to build a self-evolving Bio-Knowledge Graph.

Eco-Financial Cycle (Economic Layer)

Micro-Carbon Economy quantifying carbon credits and Green Premiums via Value by Circulation.

The Four-Layer Socio-Metabolic Network Architecture

Layer IV: Social Implementation Layer

Primary Agent: AGRIX / HealthBook Platforms

Layer III: Economic Incentive Layer

Primary Agent: Green Premium Market, Carbon Credits

Layer II: Data Collection & Control Layer

Primary Agent: IoT Sensors, AI Analysis Nodes

Layer I: Microbial Metabolic Reaction Layer

Primary Agent: MBT55 Consortium

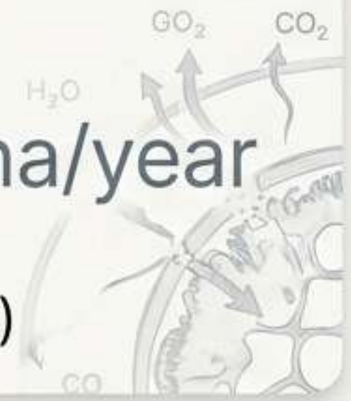
Quantitative Recovery of the Carbon and Nitrogen Cycles

+116%

SOC Formation Rate increase
(jumping from 0.6% to 1.3% annually)

1.8–2.6 t/ha/year

CO2 sequestration equivalent
(+100% vs conventional farming)



42–57%

Methane emission reduction rate

-48%

Ammonia volatilization decrease

Performance matches the top 2% of Regenerative Agriculture models recognized by the UN FAO

Creating Health, Employment, and Knowledge Circulation

Health (reCLA Probiotic)

+32–48% gut environment improvement. Resolves severe gastrointestinal issues and balances the oral microbiome.

Linked to the HealthBook platform (managing 129 disease risk assessments).

Cost Savings

Estimated medical cost reduction of ~$120 USD per person annually.

Employment

Creates 820 new jobs per year per pilot district (42% designated for women and youth).

820 new jobs

Generating Economic Value Through Circulation

+18–22% Green Premium

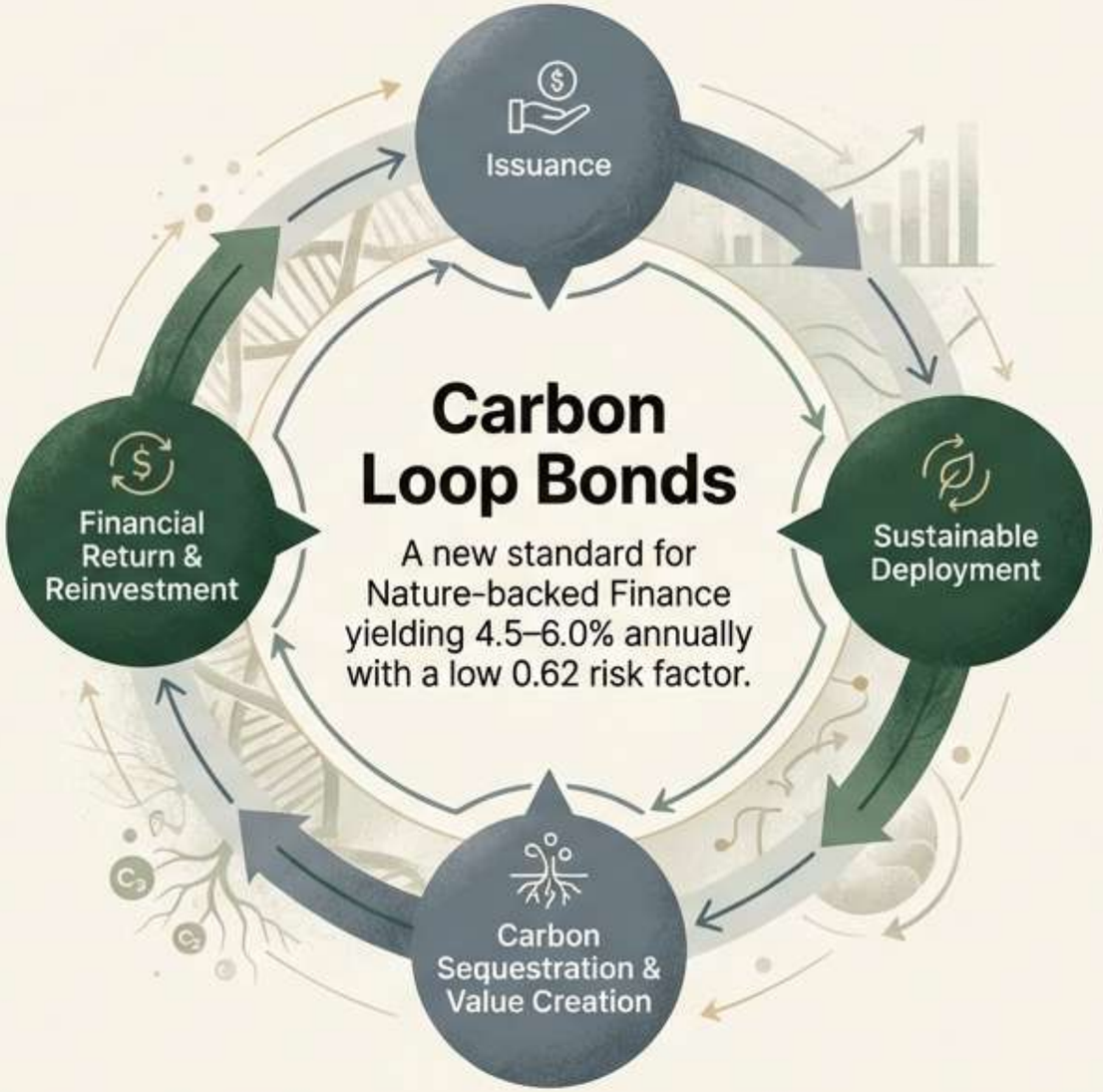
For recycled fertilizers and carbon-neutral crops.

$200–240 USD

Additional annual revenue per hectare for farmers.

1.72 Multiplier

Regional economic ripple effect, boosting local GDP by +2.8% to +3.4% annually.



The Integrated Sustainability Index (SI)

$$SI = w_1E + w_2S + w_3E_c$$

Environmental Contribution (40%)	Social Contribution (35%)	Economic Contribution (25%)

The MSC implementation achieves an SI score of 0.84 (out of 1.0), significantly exceeding the international average SDG score of 0.63.

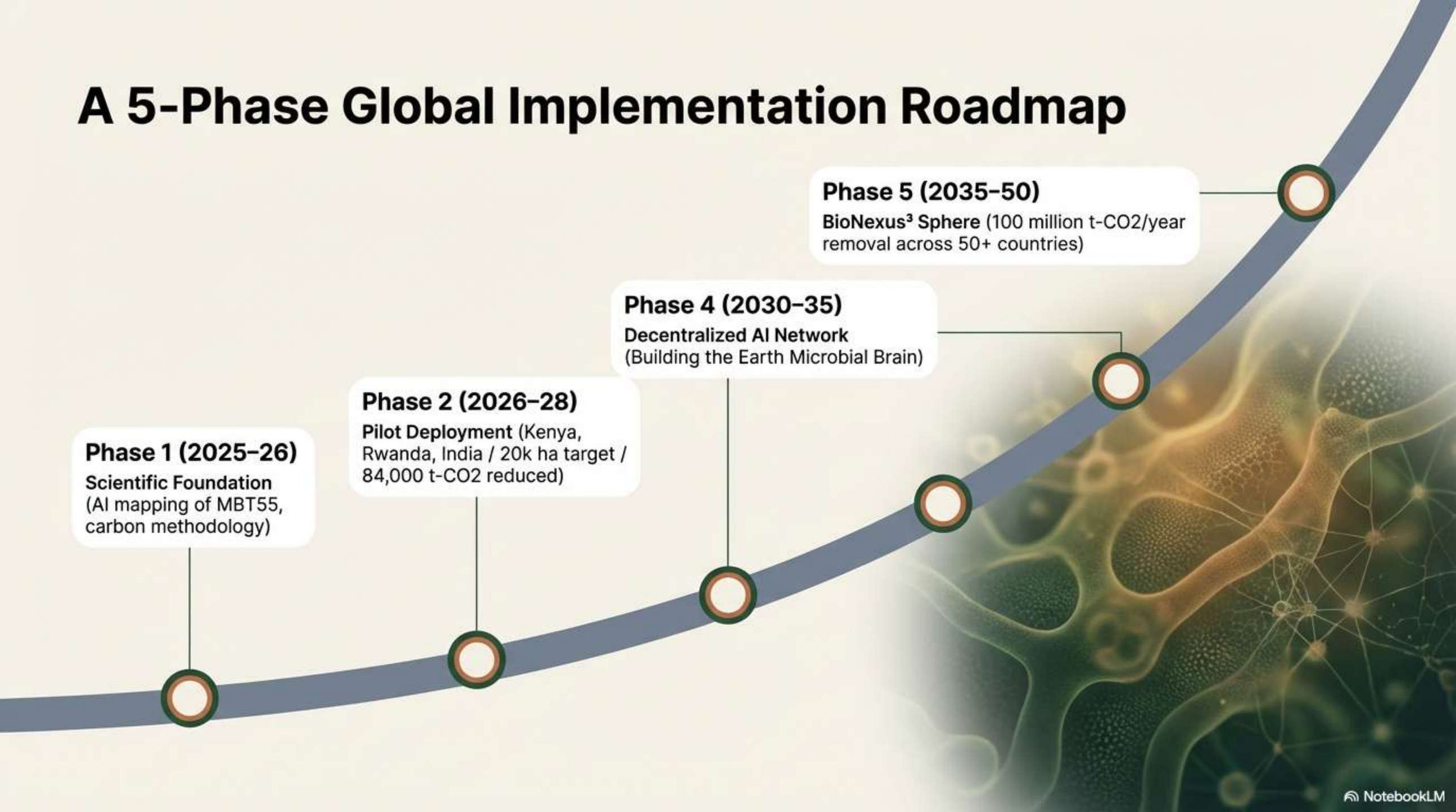
A 5-Phase Global Implementation Roadmap

Phase 1 (2025–26)
Scientific Foundation (AI mapping of MBT55, carbon methodology)

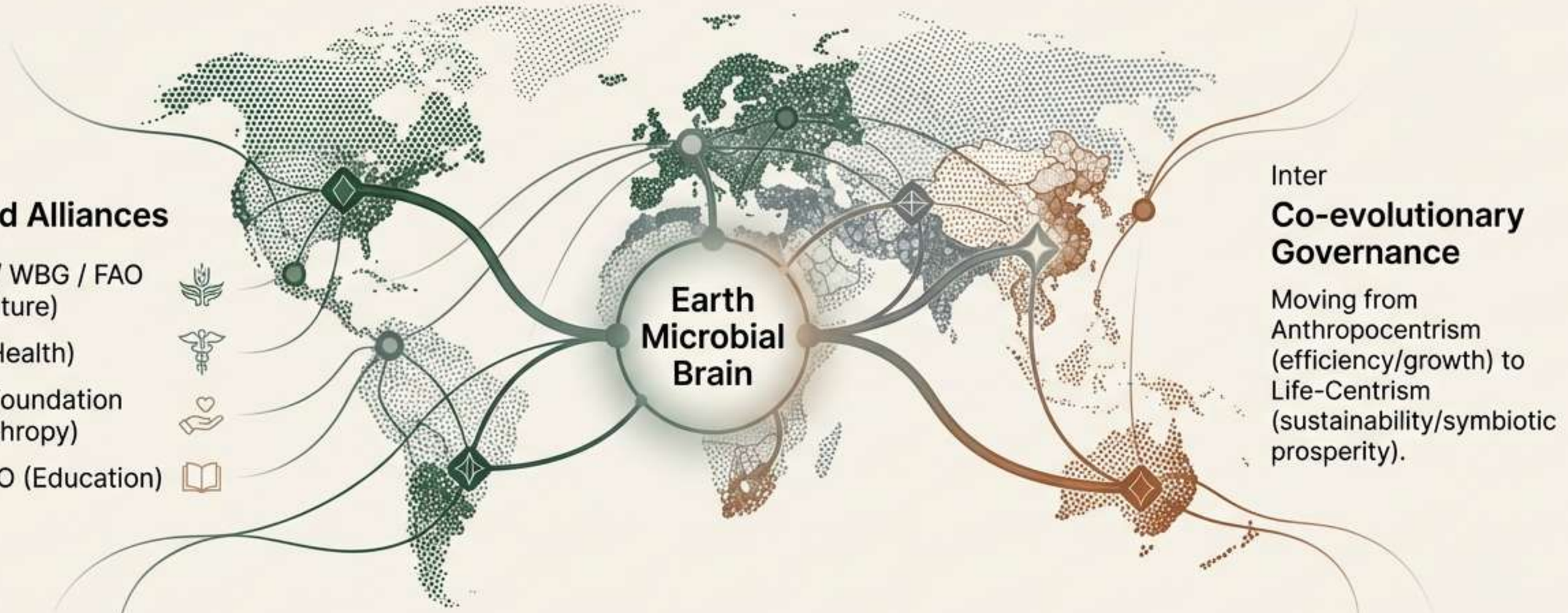
Phase 2 (2026–28)
Pilot Deployment (Kenya, Rwanda, India / 20k ha target / 84,000 t-CO2 reduced)

Phase 4 (2030–35)
Decentralized AI Network (Building the Earth Microbial Brain)

Phase 5 (2035–50)
BioNexus³ Sphere (100 million t-CO2/year removal across 50+ countries)



Transitioning to an Eco-Intelligence Economy



Inter

Required Alliances

- CGIAR / WBG / FAO (Agriculture)
- WHO (Health)
- Gates Foundation (Philanthropy)
- UNESCO (Education)

Inter

Co-evolutionary Governance

Moving from Anthropocentrism (efficiency/growth) to Life-Centrism (sustainability/symbiotic prosperity).

From Carbon Neutrality to Carbon Intelligence.
The MBT Sustainable Cycle is not just a technology to reduce carbon—it is a living pathway to a civilization that circulates life.