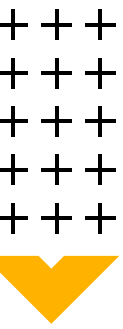


THE CARBON CODE: TRADING, TRACKING AND TRANSFORMING EMISSIONS



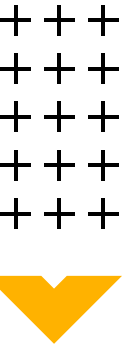
WEEK 2 DAY 2



CARBON CREDIT SECTORS- FROM FARMS TO Factories (Forestry and Land Use/Agriculture and Soil Carbon/Blue Carbon)



I. NATURAL SECTOR CREDITS



1. Forestry & Land Use (REDD+, ARR)

How It Works:

REDD+ (Reduced Deforestation): Pays to protect existing forests.

Example: Kasigau Corridor, Kenya (VCS-certified, 20M+ credits).

Controversy: Kariba REDD+ accused of inflated baselines.

ARR (Afforestation/Reforestation): Credits for planting trees.

Methodology: Verra's VM0045.

Risk: Monocultures harming biodiversity.

Key Tools:

- Global Forest Watch (satellite monitoring).
- SilviaTerra (forest carbon mapping).



2. Agriculture & Soil Carbon

[click here for an interesting video](#)

How It Works:

1. **No-Till Farming:** Stores CO₂ in soils.

Example: Indigo Ag's Carbon Program.

Issue: Reversibility (tilling releases CO₂).

2. **Biochar:** Pyrolyzed biomass buried in soils.

Certification: Puro.earth.

Debate: Scalability limited by feedstock.

Data Insight:

Soil credits trade at \$20–\$100/ton but face MRV challenges (soil microbes vary daily).

3. Blue Carbon

How It Works:

Mangrove/Seagrass Restoration: Stores 4x more CO₂ than forests.

Example: Delta Blue Carbon, Pakistan (250k tons/year).

Controversy: Cambodian mangrove land grabs.

Science Note:

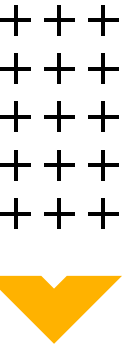
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II. Engineered Sector

Credits



1. Renewable Energy (Wind/Solar/Hydro)

How It Works:

Credits for displacing fossil fuels.

Gold Standard's Methodology: "Grid-connected renewable energy."

Problem: Most fail additionality (e.g., India's wind farms built anyway).

Case Study:

South Pole's Indian Wind Farms – Over-credited by 300%
(SourceMaterial).



2. Industrial Tech (DACCS, CCS)

How It Works:

DACCS (Direct Air Capture): Machines absorb CO₂ from air.

Example: Climeworks, Iceland (\$600/ton).

Hurdle: Energy-intensive (1 ton DAC = 1,000 kWh).

[What is Direct Air Capture? A Technical Explainer](#)

CCS (Carbon Capture & Storage): Captures smokestack emissions.

Controversy: Chevron's Gorgon Project captured only 50% of promised CO₂.

3. Waste Management

How It Works:

Landfill Methane Capture: Burns CH₄ (84x worse than CO₂).

Methodology: ACM0001 (CDM).

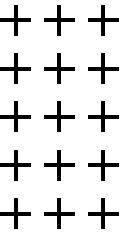
Risk: Incentivizes waste production.

Plastic Pyrolysis: Converts waste to fuel.

Debate: Critics call it "greenwashed incineration."

Example:

Clean Development Mechanism's Brazil Landfills.

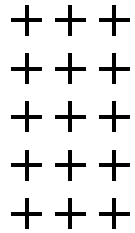


Sector Comparison Table

Sector	Credit Type	Cost/Ton	Permanence	Co-Benefits
REDD+	Avoidance	\$3–\$15	10–30 yrs	Biodiversity
Soil Carbon	Removal	\$20–\$100	5–20 yrs	Farm yields
DACCS	Removal	\$600–\$1,200	1,000+ yrs	Minimal
Wind Energy	Avoidance	\$1–\$5	N/A	Jobs

Emerging Sectors to Watch

Ocean Alkalinity Enhancement: CO₂ storage via mineral weathering.
Enhanced Rock Weathering: Spreads crushed basalt on fields.





THANK YOU