

CarbonCred

Micro Carbon Credits for Small Businesses

STARTUP HACKATHON 2025 | TEAM ECO-PULSE

The Problem

- ✖ **Exclusion:** Carbon markets are built for industrial giants, leaving 90% of businesses behind.
- ⚙️ **Complexity:** Tracking Scope 1, 2, & 3 emissions is a nightmare for small teams.
- 💲 **High Entry Barrier:** Professional audits cost more than the credits are worth.
- 🚫 **Missed Incentives:** SMEs have zero financial motivation to go green.



| Why This Matters

90%

OF GLOBAL BUSINESSES

44%

OF INDUSTRIAL
EMISSIONS

<1%

ACCESS TO CREDITS

SMEs are the missing link in global sustainability.
We bridge the gap with affordable, micro-scale solutions.

The CarbonCred Solution



Track

Easy-to-use dashboard for tracking energy, waste, and logistics emissions.



Mint

Convert small-scale reductions into verified "Micro Carbon Credits."



Trade

Sell credits to large enterprises and event organizers in real-time.

Live MVP Overview

Emission Tracker

Calculates CO₂e based on utility bills, transport logs, and waste data. Real-time trends and breakdown by category.

Micro Credit Engine

Smart verification logic that validates reductions against SME-specific baselines before minting tokens.

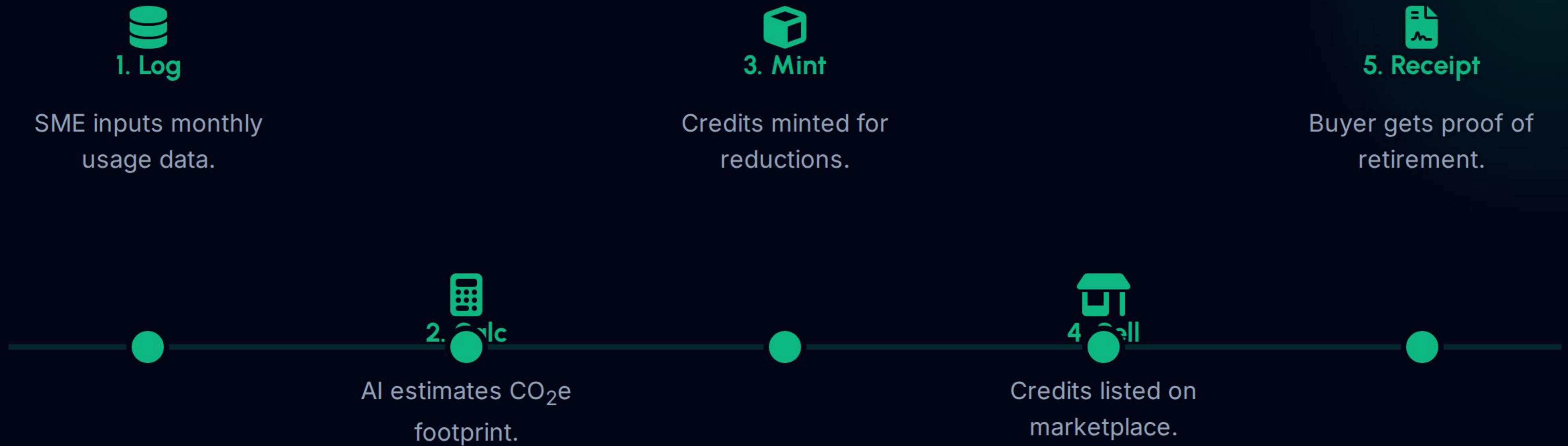
The Marketplace

A seamless portal to list credits. Buyers can purchase and "retire" credits instantly, generating a secure Carbon Receipt.

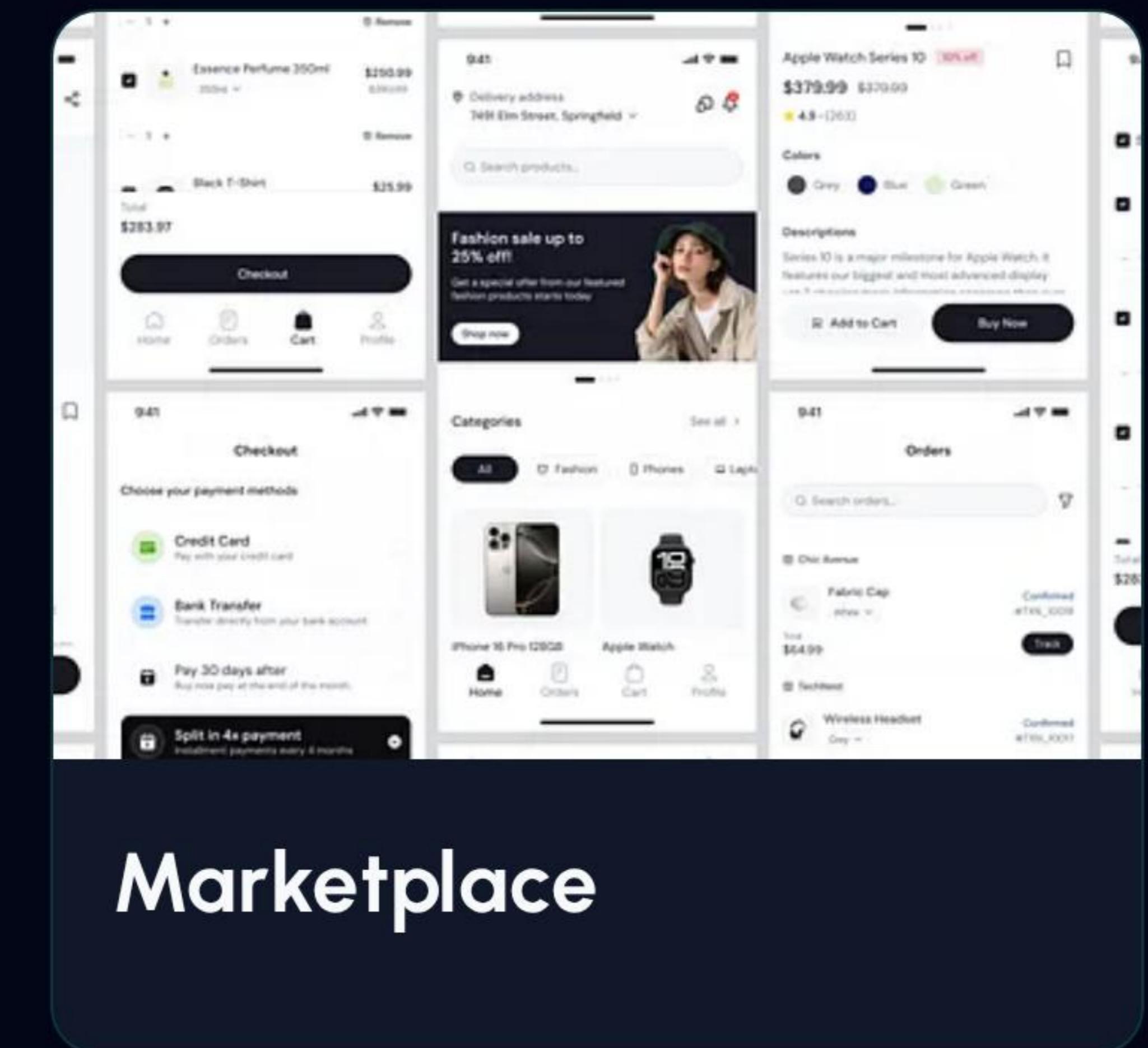
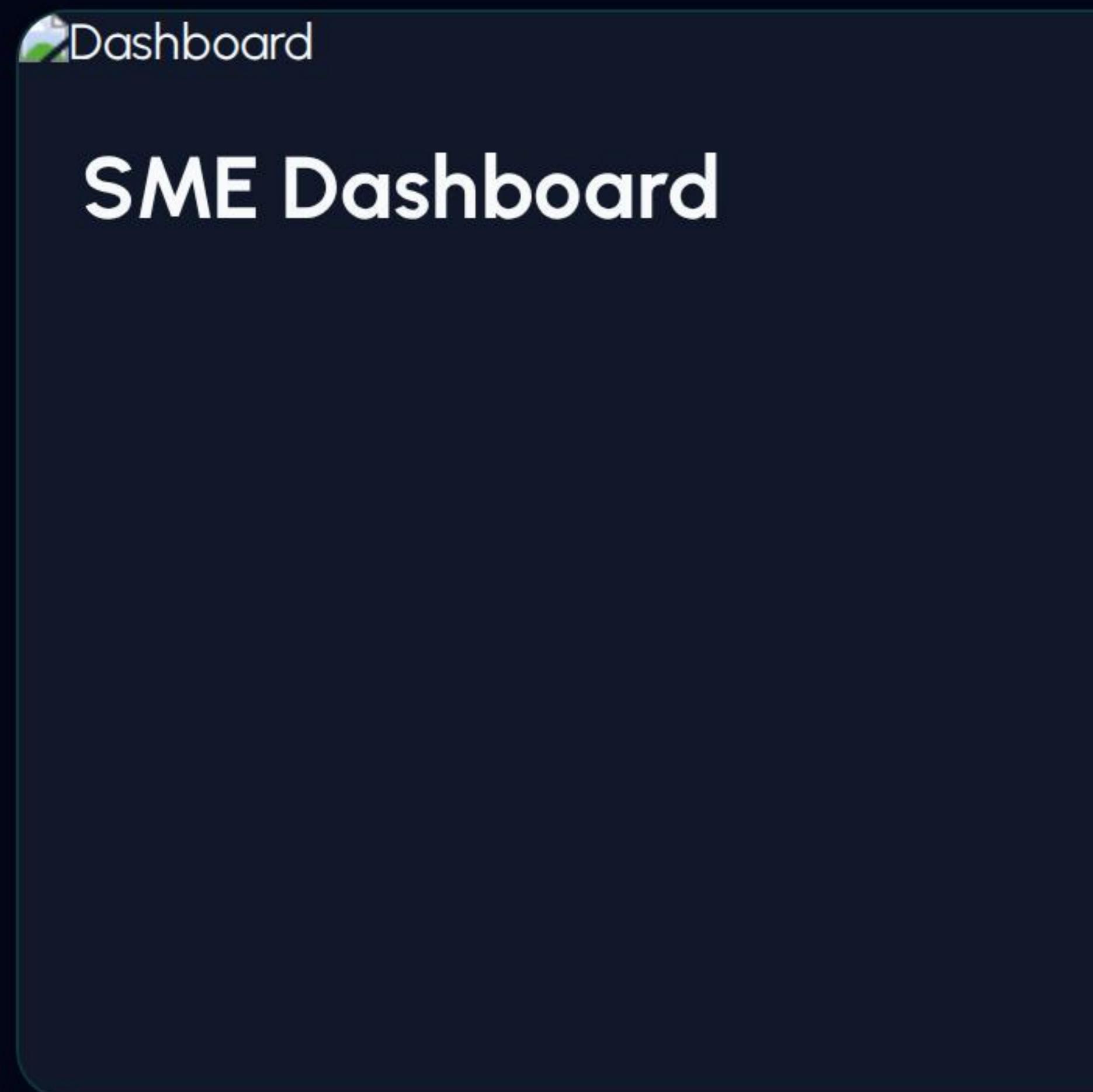
Immutable Ledger

Every transaction, from emission input to credit retirement, is recorded on a transparent, verifiable hash-chain.

The Flow: Data to Credits



Product Walkthrough



Technology Architecture

| Layer | Tech Stack | Function |
|----------|----------------------------|---|
| Frontend | React + Tailwind CSS | Responsive Dashboard & Marketplace Interface |
| Backend | FastAPI (Python) / Node.js | High-performance API handling & logic |
| Ledger | Hash-chain / Ganache | Secure, immutable credit transaction recording |
| ML Layer | Scikit-learn / TensorFlow | Emission estimation & anomaly flagging |
| Database | Firebase / MongoDB | Scalable storage for user profile & historical data |

What Makes Us Unique



Micro-Granularity

Standard markets trade in tons. We trade in kilograms, allowing even a small cafe's reduction to be monetized.



AI-Driven Estimation

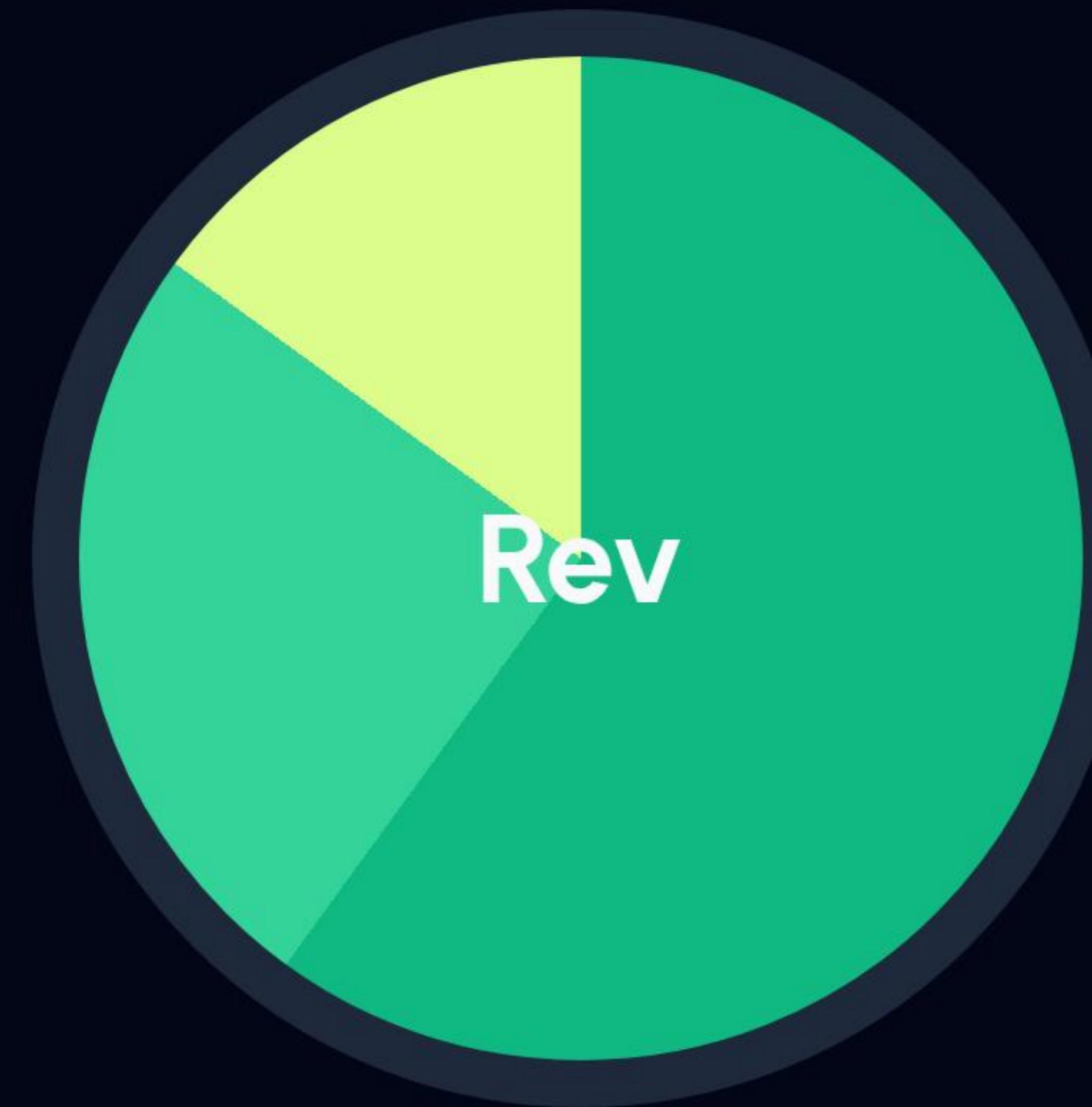
Proprietary ML models help SMEs estimate footprint with incomplete data, reducing the cost of entry by 90%.



Hybrid Ledger

Combines speed with blockchain transparency to prevent double-counting and ensure buyer trust.

Business Model



- 60% Marketplace Fees (2-5%)
- 25% SaaS Compliance Tools
- 15% Enterprise ESG Reporting

Project Roadmap

Hackathon Final

MVP Release: Tracker +
Basic Marketplace.

Q4 2025

Partnerships with ESG
Consultants & Audit
Firms.

Q3 2025

IoT Smart Meter
Integration & Pilot
Program.

2026

Global Expansion
across Retail &
Logistics.

The Team

| Member | Role | Focus |
|--------------|------------------------|------------------------------|
| Alex Rivera | Lead Developer | Backend APIs & ML Logic |
| Sarah Chen | UI/UX Designer | Frontend & Dashboard UX |
| James Okafor | Blockchain Lead | Ledger Security & Minting |
| Mia Wong | Data Scientist | Emission Models & Analytics |
| David Smith | Business Strategist | Pitch, Design & Partnerships |
| Elena Cruz | Integration Specialist | Testing & Live Demo Prep |

Thank You! Questions?

Image Sources



<https://www.ceebeedesignstudio.com/blogs/wp-content/uploads/2025/11/lighting-1024x682.webp>

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