



Building a carbon-neutral industrial ecosystem across Southeast Asia through a CO₂-credit-based e-Mobility platform

[Juhee Lee]

[Team Leader, VERYWORDS, Republic of Korea]

Korea's Mitigation Gap Meets Cambodia's Transition Need : A Case for Article 6 Cooperation

VERYWORDS sits exactly where national NDC obligations meet on-the-ground market conditions.

Korea · Rising Need for International Mitigation

2035 Industrial Sector Reduction Target

29.8 MtCO₂e

2035 Industry: 260 → 230 Mt CO₂e required reduction

2030 — Annual Reduction Obligation

37.5 MtCO₂e/yr

International mitigation budget scaling beyond USD 1.38B per year

MOTIE Installation Support Budget

2024 2025 2026 USD (KRW 1,450/\$)

\$35M → \$36M → \$38M

Cambodia · Electric Motorcycle Transition

Motorcycles per 1,000 people

326 units (2025)

Scaling to 568 by 2050 — Vietnam is already at 655

2050 Electric Motorcycle Penetration Target

70 %

From 10% in 2030 to 70% in 2050 — a steep policy acceleration

Total Registered Motorcycles

2024 → 2050 outlook · ~258K new units per year

5.8 → 12.5 million

Three Gaps That Grant Funding Cannot Close on Its Own

Southeast Asia already has 200 million ICE motorcycles.

The transition is a system problem - price, infrastructure, and operations must be unlocked together.

1

High Upfront Price

Battery cost creates a steep entry barrier — sticker price exceeds local consumer purchasing power.

2

Infrastructure Gap

Lack of charging stations limits range — continuous operation required for delivery and commercial use is impossible.

3

Operational Friction

Weak maintenance and after-sales infrastructure erodes consumer trust, stalling adoption.

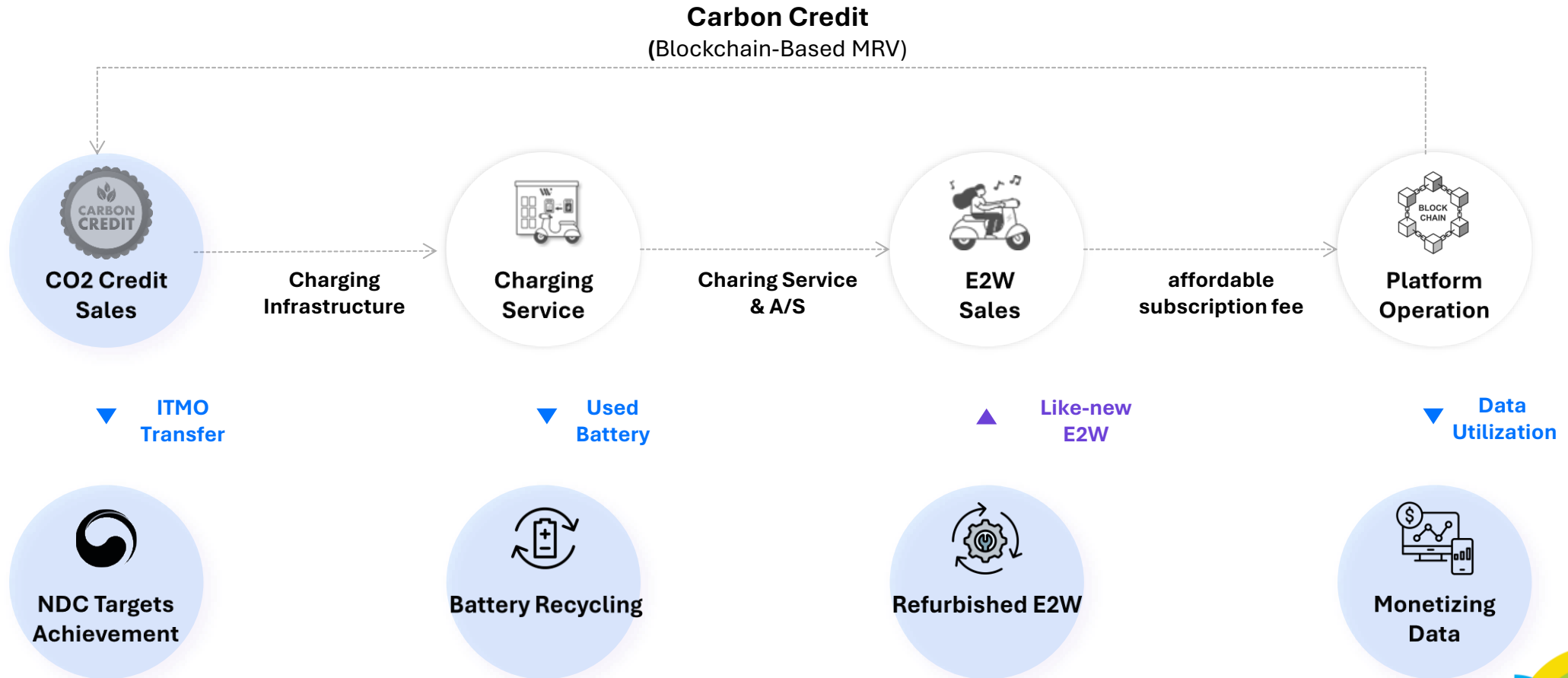
3 in 1

Three problems resolved within a single platform

VERYWORDS links manufacturing, infrastructure, and carbon finance into a **self-reinforcing ecosystem** rather than a stand-alone business.

Pre-Selling Verified Credits to Build Infrastructure

Building infra with pre-sale revenue, delivering 40%+ savings vs. gasoline and enabling e-Mobility without subsidies.



Four Layers Working as One

Not isolated businesses - one data flow links each layer into a self-reinforcing ecosystem that lowers upfront cost, improves usability, and cuts operating expense in parallel.

01 HARDWARE

Manufacturing

Direct operation of a Cambodia assembly plant producing electric motorcycles.

30K units / yr

02 INFRASTRUCTURE

Cultural Hub

Integrated charging, battery swap, café, and community spaces at each POPLE Station.

Charging Density

03 IOT & MRV

Proprietary MRV

Real-time emissions measurement with blockchain-anchored carbon certification.

Patented MRV

04 FINANCE

Credit Monetization

Carbon credit monetization, reinvestment, and NFT-based user rewards.

Credit Liquidity

PLATFORM EFFECT

Lower Upfront Cost

PLATFORM EFFECT

User Convenience

PLATFORM EFFECT

Lower Operating Cost

PLATFORM EFFECT

24/7 CS · Trusted MRV

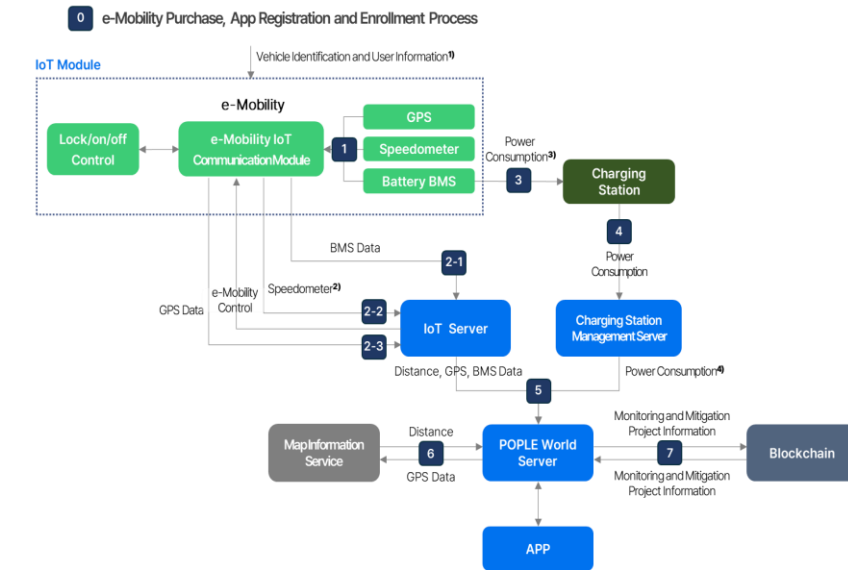
Tamper-Proof MRV - Solving the Data-Trust Problem

Trustworthy data → premium-priced credit issuance → consumer rewards — a fully closed-loop architecture.

PATENT #1

GHG Reduction Monitoring System

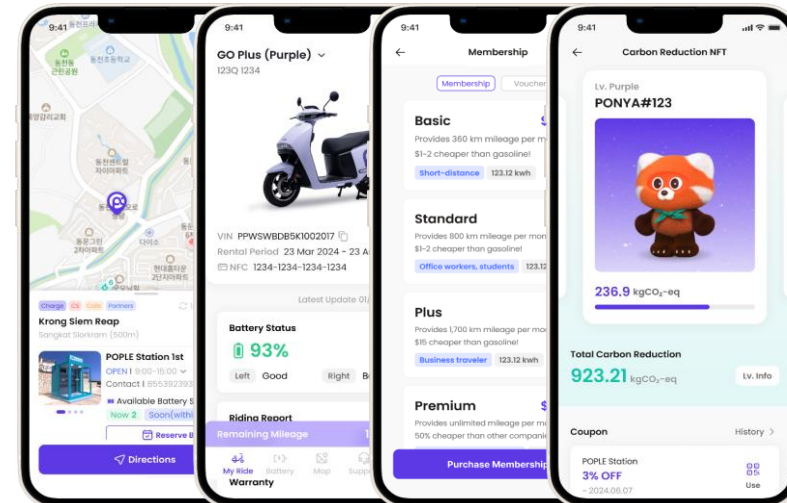
Real-time ride data → automated emissions calculation → structured MRV audit-ready for third-party verification.



PATENT #2

NFT-Based Carbon Neutrality Culture Platform

Individual ride and reduction records minted as NFTs → consumer rewards and brand loyalty programs.



End-to-End Operations in Cambodia: From Manufacturing to Recycling

End-to-end net-zero operations — from electric motorcycle manufacturing through to battery recycling — with the ITMO platform at the core.



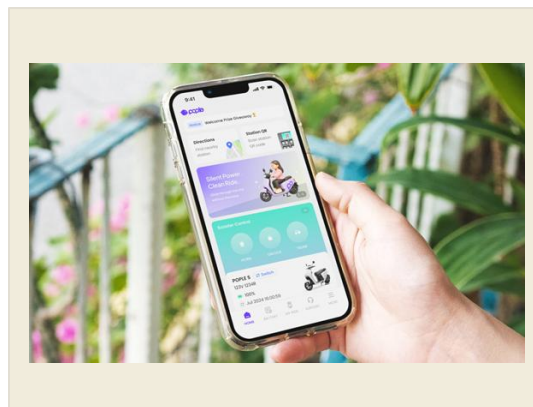
01 · MANUFACTURING

Electric motorcycle assembly (30K / yr)



02 · OUTBOUND

Dispatch · Rental · Local delivery



03 · OPERATION

POPLE Station operations · MRV

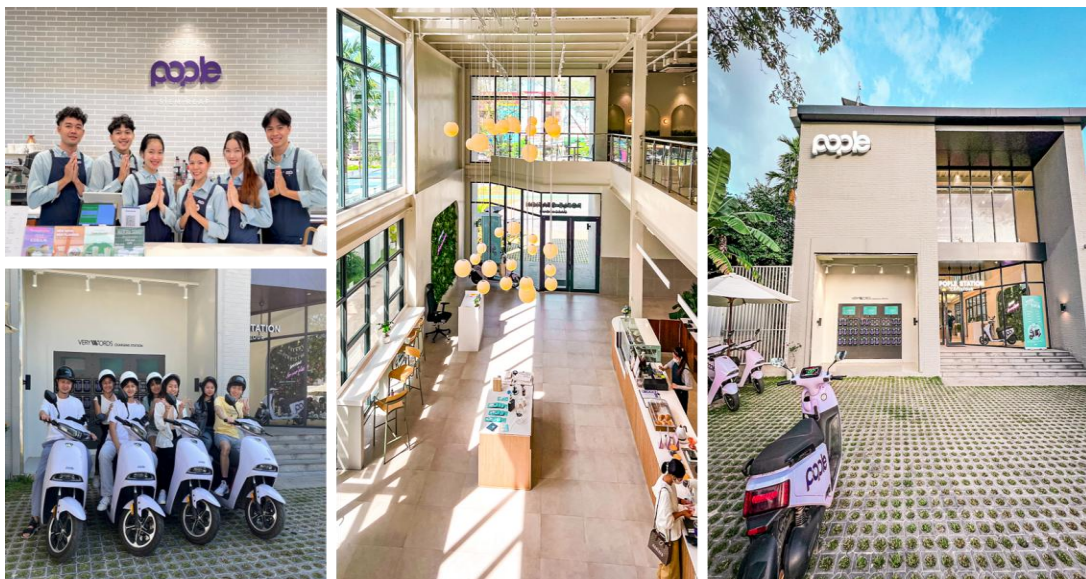


04 · RECYCLING

Battery recycling · Resource circularity

Siem Reap · Angkor Wat - A UNESCO: Site Pilot for Climate-Tourism Integration

A cultural hub where net-zero lifestyle meets e-Mobility — and an eco-tourism testbed inside a UNESCO World Heritage site.



POPLE STATION · SIEM REAP

Integrated hub: motorcycles + charging + café + community

A lifestyle hub anchoring net-zero culture — the first touchpoint for delivery riders, tourists, and local residents.



EV ECO TOURISM · ANGKOR WAT

Electric motorcycles · eco-friendly tuk-tuks

A net-zero tourism testbed inside a World Heritage site — converting global visitor traffic into brand equity.

Government, Finance, and Platform Partners : A Working Public-Private Coalition

Public, financial, and delivery partners — accelerating charging infrastructure and electric motorcycle adoption together.

GOVERNMENT

Ministry of Mines and Energy



Linked to national energy transition policy — joint standard-setting for e-Mobility charging stations.

GOVERNMENT

Ministry of Environment



Authorizing authority for the ITMO project — operating emissions-reduction certification.

BANKING

Woori Bank Phnom Penh



Offering to 3,000 in-country sales staff — rental & financing product design underway.

DELIVERY PLATFORM

Foodpanda



Cambodia-wide partnership targeting 10,000 delivery riders — a direct conversion channel to EV.

Scaling lever — Public (authorization) + Financial (capital) + Demand-side (riders) stacked in parallel — diversifying single-partner risk and enabling B2B2C distribution.

+20% Income for Delivery Riders : A Measurable Just-Transition Outcome

Riders who previously spent ~50% of their \$500 monthly income on motorcycle operating costs now get the **motorcycle + charging + service for the cost of fuel alone.**

Status quo · Used gasoline motorcycle	
High operating-cost burden	
Monthly cost	\$259 [loan + fuel & repairs]
Accident · flooding	\$50 ~ \$300: unpredictable
Repair downtime	1 ~ 5 days off the road
Delivery income loss	Complete stop

VS

VERYWORDS · Electric motorcycle rental	
Predictable, fixed cost	
Monthly cost	\$97.9 [rental + unlimited charging + service]
Accident · flooding	\$50: fixed deductible
Replacement	Swap-out within 1 hour
Delivery income loss	Near-zero

Building a Carbon-Neutral Industrial Ecosystem Across Southeast Asia

①

WHAT WE BUILT

One Platform Manufacturing → Infrastructure → MRV → Finance, working as one system

②

WHAT WE PROVED

Real Field Results Live operations in Cambodia, +20% rider income, verified carbon data

③

WHAT'S NEXT

A Replicable Model A blueprint for climate cooperation across Southeast Asia

VERYWORDS' ROLE

Building a carbon-neutral industrial ecosystem across Southeast Asia, together with governments, finance partners, and local operators.