



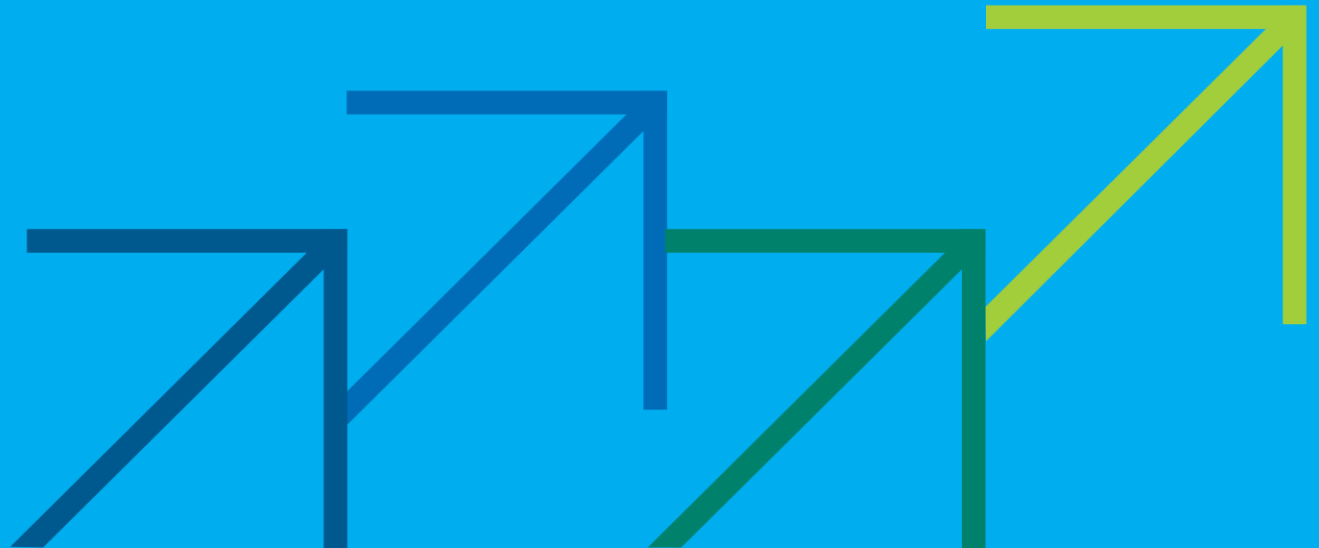
**KGID  
2025**

**Green Growth:  
The Path to  
Sustainable Jobs**

# Bringing Green Technology to Voluntary Carbon Market through the KCCI Carbon Standard (KCS) Program

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KCCI center for Carbon Reduction Certification  
at Korea Chamber of Commerce and Industry



# Global Efforts towards a Greener World

## Efforts to Net Zero



### Global

**More than 150 countries\*** have declared Net Zero

(\*) Representing over 90% of the global economy

### Company

**Approximately 8,300 companies,**  
1,180 local governments,  
and 590 investment institutions

## Regulations in advanced market

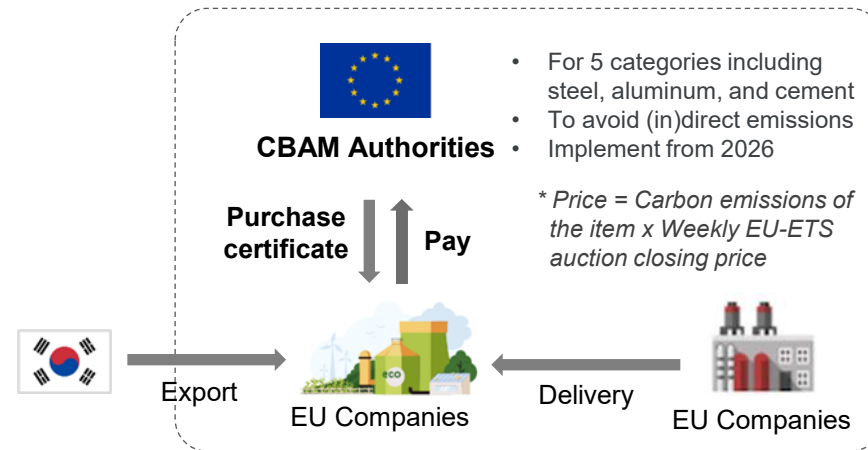


SEC, Promotes Mandatory Climate-related Information Disclosure



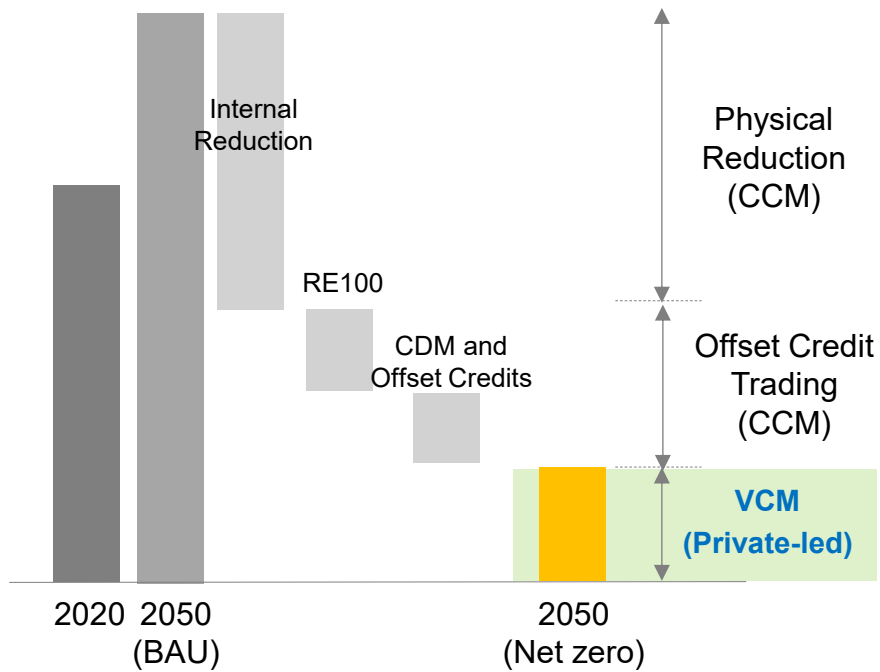
Passed Carbon Border Adjustment Mechanism (CBAM)

### 【 Carbon Border Adjustment Mechanism 】



# What is Voluntary Carbon Market (VCM)?

## How to achieve net zero by 2050



## Definition of VCM from authorities



VCM allows companies to **self-introduce emission targets** aligned with their climate objectives, often complementing **their business strategies**.

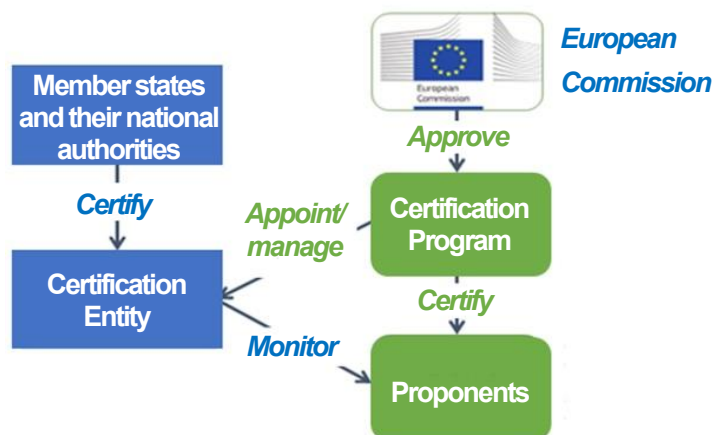


Voluntary carbon markets (VCMs) leverage market mechanisms to **promote investment in projects that reduce, avoid or remove harmful greenhouse gases**. If held to high standards of integrity and transparency, carbon markets offer **huge potential to advance efforts to accelerate critically-needed climate action**. In addition, carbon markets may be useful in facilitating a just transition and contributing to a range of SDGs.

# Global VCM Trends

## Carbon Certification Framework

- To certify carbon removal and reward on its activities
- **(Allows) 3 specific cases\* to earn the certification**
  - ※ ① Permanent carbon removal incl. BECCS, DACCS
  - ② Carbon farming (Stored in soil and forest) ③ Carbon storage with sustainable items incl. wood, construction materials
- (For what) ESG activities, transactions in carbon market, etc.
- (Expected effects) Encouraging industries to invest & involve in developing relevant technologies toward a net zero



## VCM Joint Policy and Principles

- To sustain VCM's own reliability and its credit quality
- (Proposed by) 6 U.S. ministers incl. Secretary of the Treasury
- **7 Principles on Integrity in Supply, Demand, Market**

- Sup.** ① Credits, to be real and verifiable
- ② When Issuing, Do no net harm
- ③ Buyers, minimizes to utilize if necessary
- Dem.** ④ Credit History, to be publicly disclosed
- ⑤ Offsetting, only with high quality credit
- Mkt.** ⑥ Participants, strive to enhance integrity
- ⑦ Policymakers & Proponents, to make it cost effective

*"The principles are an important step toward building high-integrity VCMs. This is part of efforts to tackle the climate crisis and accelerate a clean energy transition that benefits all"*

# KCCI and its role to advocate Korean Industries

## Overview



***“As the most influential economic entity representing Korean economy since 1884, the non-profit KCCI represents the voices of big conglomerates and SMEs, closely tied with the central and local government”***

### Fast Facts



- based in Seoul since April 1884
- 201.7 thousand firms & affiliates enrolled
- recognized as a public legal entity by law in 1953
- Chairman Taewon CHEY (2021~Current)  
(known as CEO of SK Group)

## Global & Local Network



- KCCI role as ICC Korea, a national committee of ICC which connects to the world
- ICC networks can be utilized when KCCI center build up its network and branches abroad

130+  
states  
connected

2,000+  
sub-org.  
involved



- KCCI has its regional offices by each province that makes to easily create a connection between enterprises that are potential suppliers of offset credit and the KCCI center

73  
regional  
offices

700+  
field-specific  
member assn.

# Voices from Stakeholders around KCCI

## Role & Responsibility

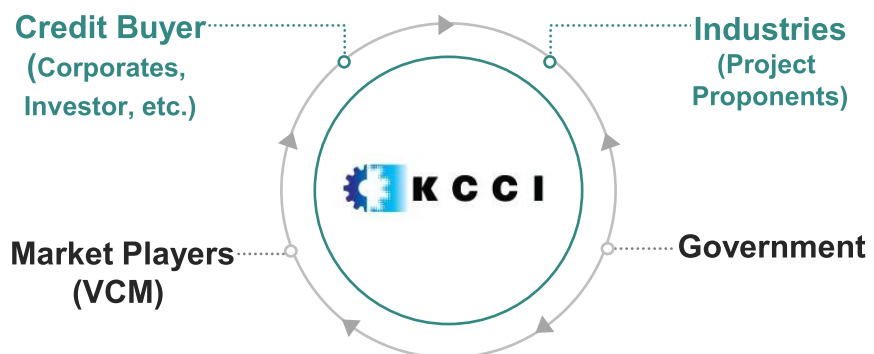
### Framework

“A surge in demand of corporates for carbon reduction certification is expected, but the regulated market alone is limited”

*“As the first Korean VCM certification entity, KCCI center (for Carbon Reduction Certification) aims to hold competency and experiences in developing methodologies, especially for tech-based reduction”*

### Goals

“To certify carbon reduction activities with reliability and expertise”



## Stakeholder Analysis



to All

*Illuminates them to promote carbon reduction or removal voluntarily*



to Indus.

*Supports their activities in carbon reduction and guide a strategy to Net Zero*



to Buyer

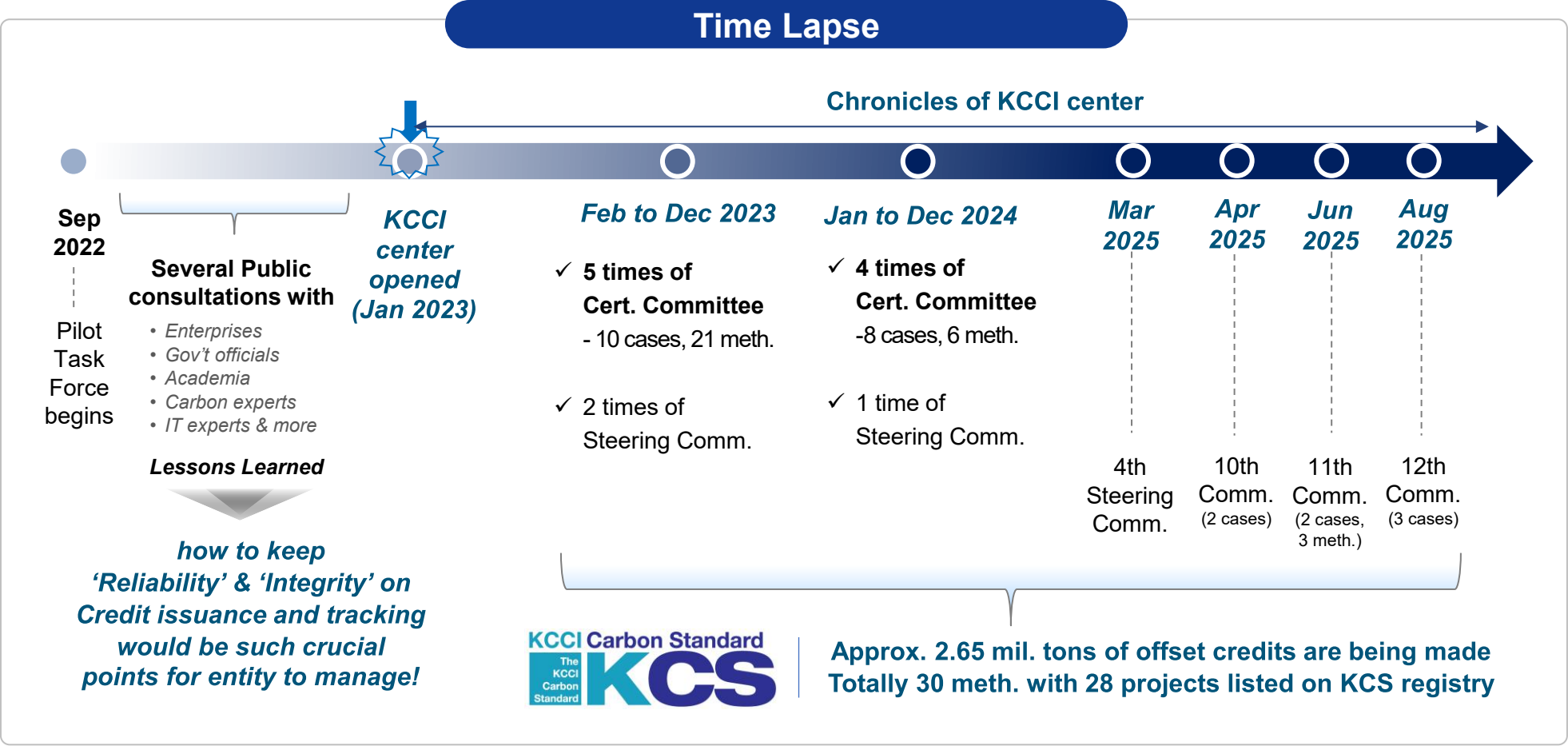
*Responsible to issue reliable credits for Net Zero*



to Gov't

*Creates and boost market & biz model to help the carbon reduction by discovering eco-friendly technology*

# KCCI center for Carbon Reduction Certification at a glance



# KCCI Carbon Standard (KCS) as Voluntary Carbon Crediting Program

## Basic Concept of Program

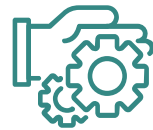
Offset Credits in VCM,  
“Necessary solution to Net Zero”

### Reduction Activities



- All reduction and removal activities, according to the accredited methodologies that meet basic principles are eligible

### Offset Credits (KCRs\*)



- It can be utilized as a mean to achieve net zero, along with on-site physical efforts in reducing carbon emissions

(\*) KCCI Certified Reductions

## Process of Certification



Proponents

Choose Methodology and prepare Project (PDD)

Implementation of Project and Monitoring

All methodologies and projects are **mandatory** for gathering public opinions

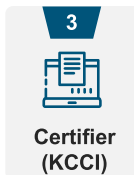


3rd Party Auditor

Validates Methodology and PDDs

Verifies Project and Monitoring Reports

Auditors must be complied with global standards such as **ISO 14065** and **IAF MD 6**



Certifier (KCCI)

**KCS**  
Reviews & Approves Meth. & PDDs → Register

**KCS**  
Reviews & Approves Reports → Issue KCRs

All credits from KCCI are online processed by system of **Centero**



# KCS Registry as Digitalized VCM Platform

## Key Features of KCS Registry

**Centero**

*“means Center of Net Zero”  
supports registry services  
that enable monitoring, reporting,  
and verification (M-R-V) of projects  
and credit issuance and various credit  
transactions for promoting Net Zero.*



【 KCS Guidelines 】



【 Digital Tracking 】

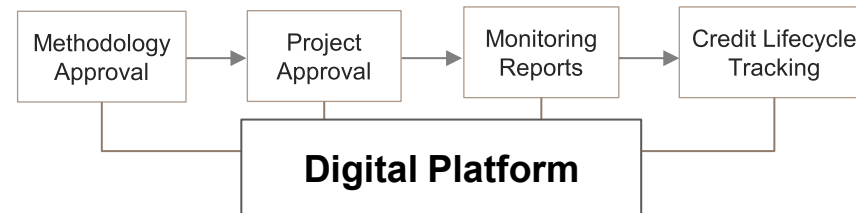


【 Credit Updates 】



【 Resources 】

## Basic Algorithm



Fully optimized for  
efficient process

Accumulates with  
**public disclosure of  
Verification data**  
&  
Prevents data forgery  
and falsification  
using **blockchain technology**

Managing  
Credit Lifecycle

Manages all transactions  
such **issuance, transfer,  
retirement/cancellation**  
&  
Utilizes blockchain technology  
to track **all history following  
transfer of ownership**

# Scope of KCS Certification

## Eligibility criteria for offset activities

KCCI center holds competency and experiences in developing all kinds of methodologies



### Carbon Reduction

Reduce primary source of CO<sub>2</sub> from energy & industrial processes

### Carbon Removal

Capture emitted CO<sub>2</sub> and store under ground/water, etc.



### ARR\*

Encourage planting, seeding and natural renewal

### REDD+\*\*

Prevent forest degradation, support eco-friendly farming

(\*) Afforestation, Reforestation and Revegetation

(\*\*) Reducing Emissions from Deforestation and Forest Degradation

## Project Types & Sectors

KCCI plans to develop 30+ methodologies soon (currently owns 28 listed on the registry)

Item	Type
Reducing CO <sub>2</sub> in production through plastic chemical recycling	Plastic
Manufacturing chemicals from biomaterials	Biofuel
Pyrolysis of waste tires to produce refined oil and carbon black	Pyrolysis
Reducing fossil fuel use of battery-powered electric vehicles	Battery
⋮	
Afforestation and reforestation methodology in degraded mangrove habitats in Vietnam	ARR
Forest management by extending age of final cutting in Forestry and Mountain Villages	REDD+

# [Ref.] KCS Methodologies

Methodology for improved forest management through extension of rotation age

Energy efficiency measures in thermal applications of non-renewable biomass

Methodology of Electricity Consumption Reduction by Improving Low Power eSSD Performance

Methodology on reduction of fossil fuels by manufacturing warm mix asphalt concrete

Methodology for improving vehicle fuel use efficiency through low-viscosity engine oil

Methodology for fossil fuel reduction according to batteries for electric or hybrid vehicles

Afforestation and reforestation methodology in degraded mangrove habits

Methodology for reduction generated during the transportation of salt water

Methodology of chemical products from raw materials applying depolymerization

Methodology of building cooling and heating energy saving through smart window film

Methodology for replacing single-use containers with reusable containers

Methodology for vehicle fuel use efficiency through mineral-based lube base oil

Methodology for carbon storage and incineration disposal by using biomaterials

Methodology of electricity loss reduction due to Si Wafer-based semiconductor devices

Methodology for using pyrolysis oil and carbon black produced using pyrolysis technology

Methodology for the disposable products inhibition project

Methodology for Reduction through Eco-friendly De-icers with the Application of Starfish

Methodology for Non-driving Refrigeration and Refrigeration Devices for Cold Chain Vehicles

Methodology for Reducing Greenhouse Gas by the Carbon Sequestration of Biochar

Methodology for reducing electricity consumption by improving low-power DRAM products

Methodology for reducing power usage in home appliances through power saving technologies

Power consumption reduction by Arm Appliance server products

Capture and utilization of carbon dioxide in the atmosphere through DACCU technology

Methodology for Products Originating from Hydrogen, Fertilizer, and Metal Compounds

Methodology for Refining Waste Organic Solvents to Replace New Products

Methodology for producing and using carbon-reduced concrete

Methodology to reduce the use of electricity and/or fossil fuels using heat pump products

Greenhouse gas removal methodology using enhanced rock weathering (ERW) technology

Methodology for Material Recovery and Recycling of Industrial solid waste

Methodology for Greenhouse Gas Reduction Using Mechanical Foaming based Warm Mix Asphalt

\* Legend : ■ Energy ■ Forestry ■ CCU/S ■ Transportation ■ Waste Recycling ■ ETC.

...

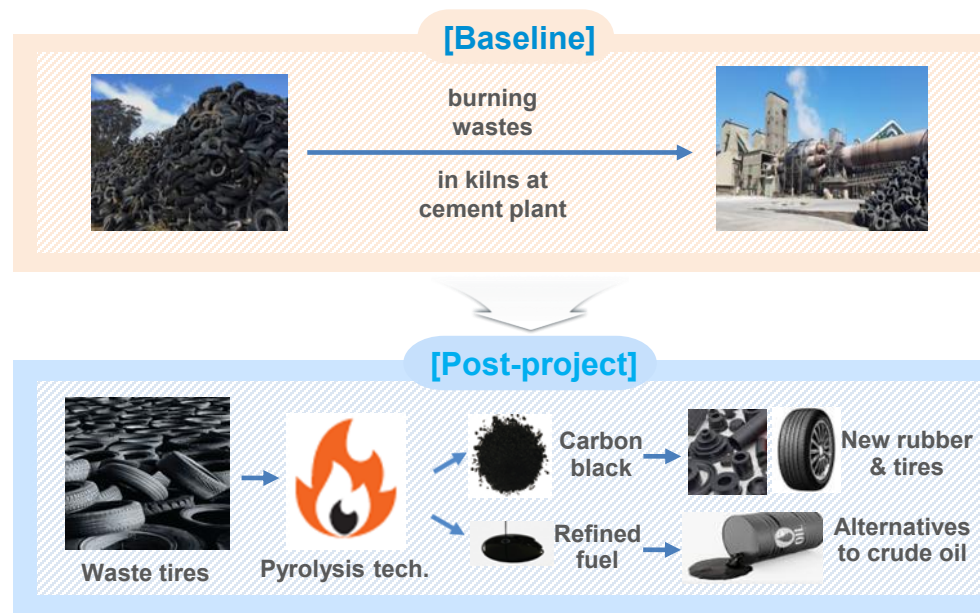
# Featured Cases from tech-focused start-up (1/2)

## Case of LD Carbon



- *Type : Reduction*
- *Sector : Waste Management and Disposal*
- *Expected Volume : 22,200 tCO<sub>2</sub>eq/y*

This methodology reduces greenhouse gas emissions **by producing pyrolysis oil that can replace fossil fuels and naphtha cracking facilities and carbon black**, the main ingredient of tires, **by recycling waste tires** (cement kiln or solid fuel products) from the perspective of resource circulation.



# Achievements in Promoting Green Growth

## Achievements

- **Signed a 10-year long-term pyrolysis oil supply contract with SK Incheon Petrochem**
- **Secured KRW 12 billion in interest support for Green Loan from the Korea Development Bank**
- **Won the Presidential Award at “King of King” Competition for K-Startups by Korean Gov’t.**
- **Secured a new plant site with Local government’s permissions to operate them**
- **Signed a business agreement with Japanese tire company including Sumitomo Rubber Industries (SRI)**

## Related News Articles

### w/SK Incheon Petrochem

멀디카본에서 생산되는 메타이어 및분해유 확보 내년 상반기 공장 투입 친환경 제품 2만톤 생산 “친환경 포트폴리오 혁신 통해 환경·사회에 도움”



### w/Sumitomo Industries



### w/Local Government

충남도, 민선 8기 35개사 유치, 2조 6468억 원













### Won Presidential Award



# Achievements in Promoting Investment

## Ranking of investment in the first half of 2024

※ Unit : 100 mil. KRW

Rank	Category	Subcategory	Company Name	Amount
1	Environment · Energy	Battery	 GREENERY	400
2	Environment · Energy	Autoparts	 LDC Life, re-Defined	400
3	Fashion · Beauty	Cosmetics	 MEDITHERAPY	260
4	Environment · Energy	Battery	 STANDARD ENERGY	250
5	Aerospace	Machinery	 NARA SPACE	200
6	Bio · Medical	Instruments	 MedInTech	200
7	Environment · Energy	Battery	 SOLIVIS	200
8	Environment · Energy	Battery	 ETS Exploring Together for Success	200
9	Fashion · Beauty	Outsourcing	 EASYTEM	175
10	Bio · Medical	Dental	 TNS   주티에네스	157.5

# Featured Cases from tech-focused start-up (2/2)

## Case of Star's Tech



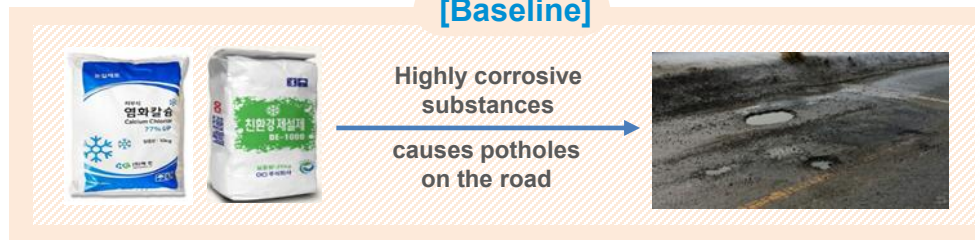
- **Type : Reduction**
- **Sector : Construction Industry**
- **Expected Volume : 27,175 tCO<sub>2</sub>eq/y**

A strategic approach for the substitution of conventional de-icers with **eco-friendly alternatives utilizing starfish extract**.

The objective is to suppress the emission of greenhouse gases throughout the entire lifecycle of overall de-icers, including their production, application, and the treatment of starfish used as raw materials.



### [Baseline]



### [Post-project]





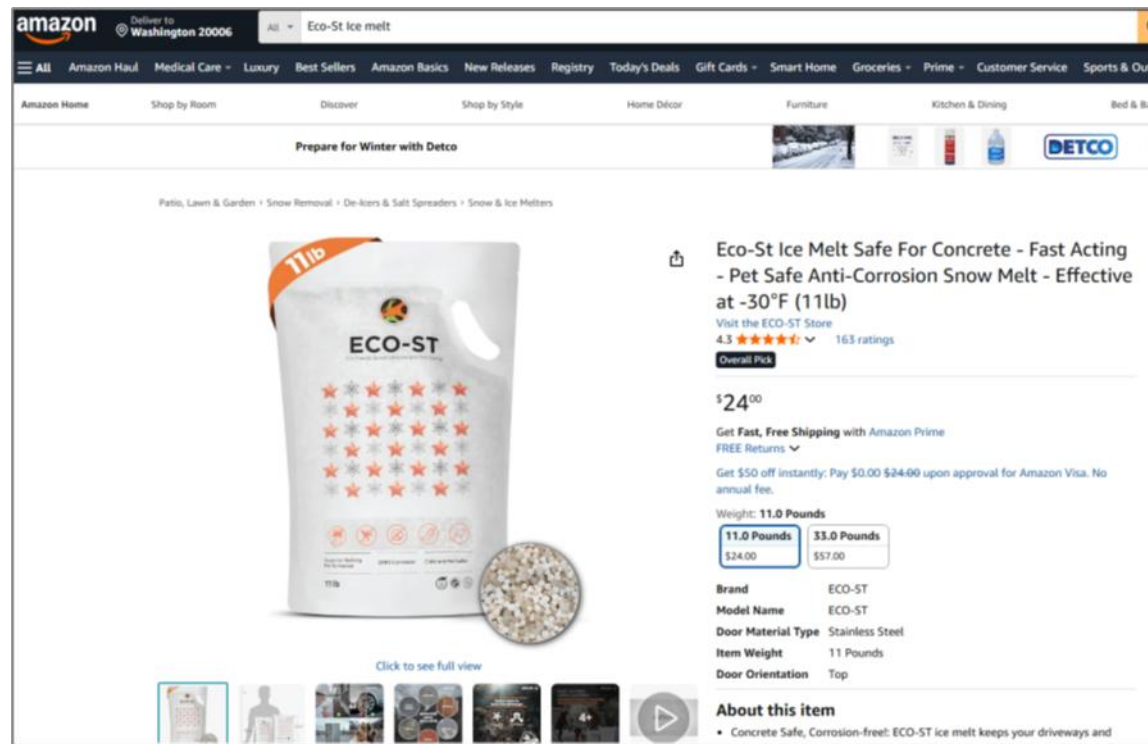
# Achievements in Promoting Exportation

## Tech-based Products at Global Market through Amazon

*Eco-friendly de-icer named ECO-ST, manufactured by Star's tech, has acquired the 'Excellent Procurement Product' Label from Ministry of Economy and Finance in Korea*

*ECO-ST won the 'Technical Innovation' Awards in APWA Alberta Chapter in Canada*

*ECO-ST is now available on Amazon*

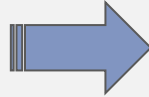




# KCCI's next steps beyond Korea

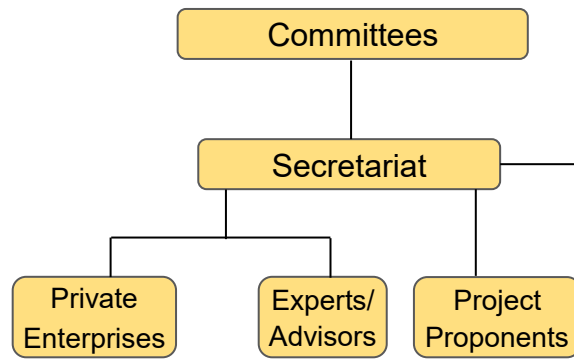
## Vision of KCCI center

**As the very first  
full-fledged entity in Korea**  
(opened in Jan 2023)



**To be the best  
entity in Asia**  
(Vision 2030)

### From the nationwide frontier



**KCCI center for  
Carbon Reduction  
Certification**

### To evolve as continental platform



*Implement  
VCM concept & scheme*

*strategic partnership*



Singapore



India



Laos



Thailand ...

**[Building up Alliance]**

# KCCI center at UN COPs

## 〔 UN COP 28 in 2023 〕



*Attended COP28 in UAE's Dubai, KCCI announced the launch of the certification center through an **official event at the Korean Pavilion** and set up an **official booth at blue zone** to provide on-site responses.*



【 PT at Korea Pavilion 】



【 Exhibit at Blue zone 】



## 〔 UN COP 29 in 2024 〕

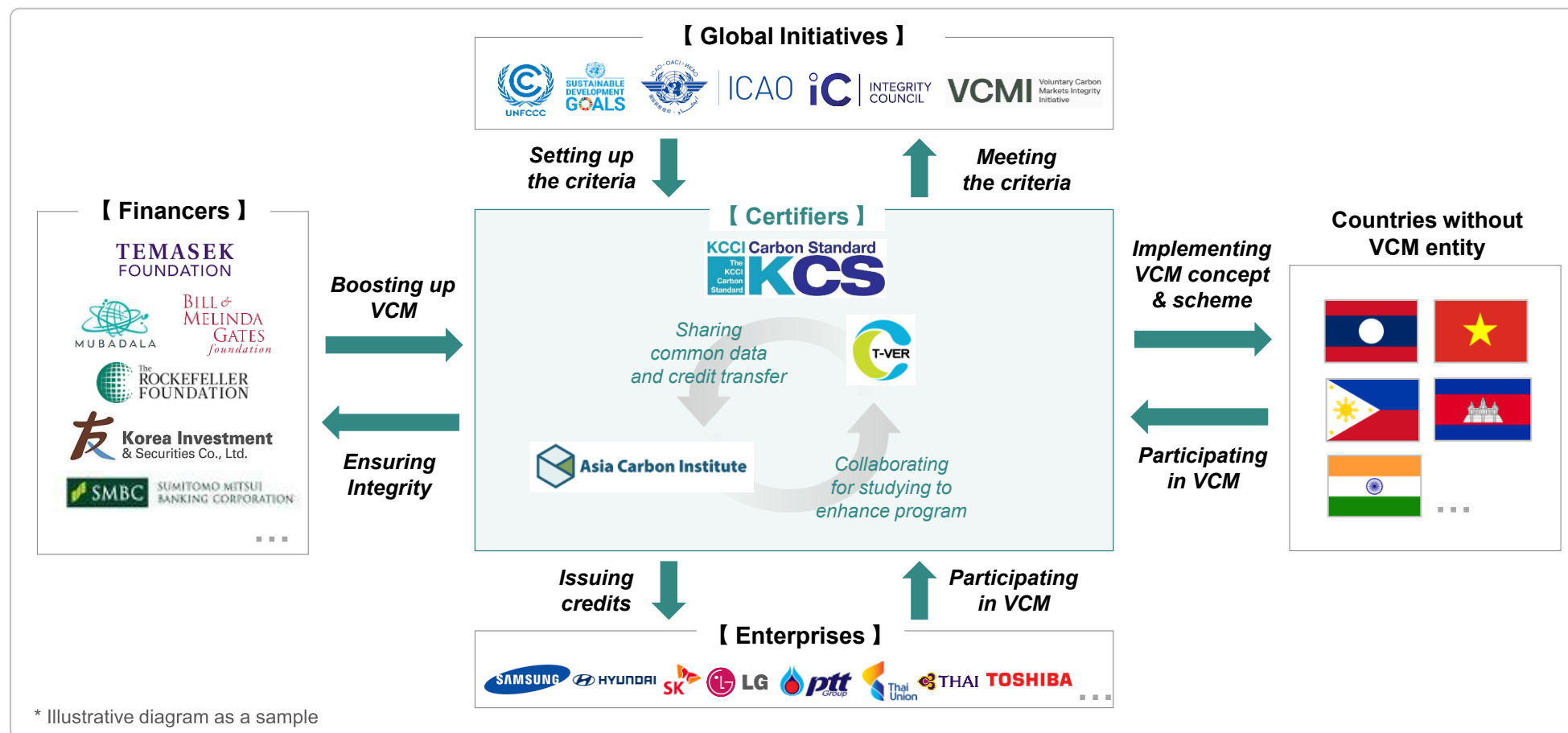


*At COP29 held in Baku, Azerbaijan, KCCI Center **signed MOUs with relevant Asian organizations** and **announced its vision** to accelerate Asian VCM and spread it to developing countries based on this agreement.*



【 PT & Networking (w/ CMAI, WB's CAD Trust and more) 】

# Aspirations towards a greater VCM



# Thank you for your attention.

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