

# **Accelerating Green Transformation to Co-create Sustainable Supply Chain in Mekong Sub-Region**

**July 2024**

**Chief Representative of AEM-METI Economic and Industrial Cooperation Committee (AMEICC) Secretariat**

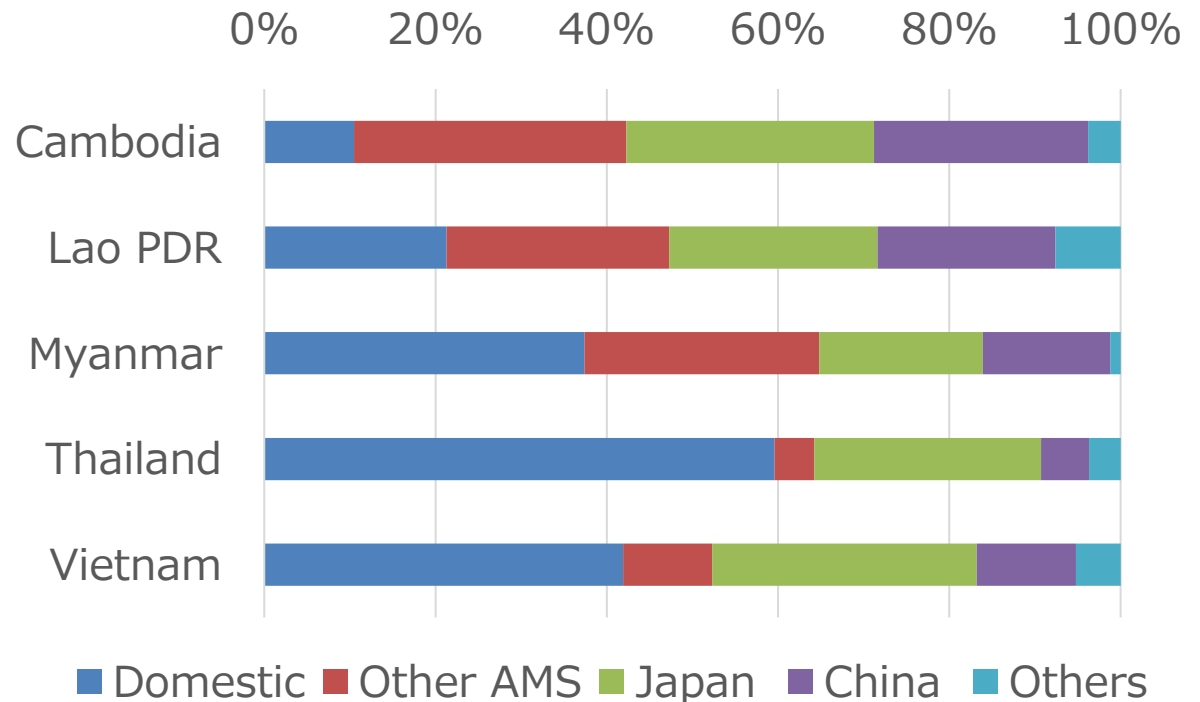
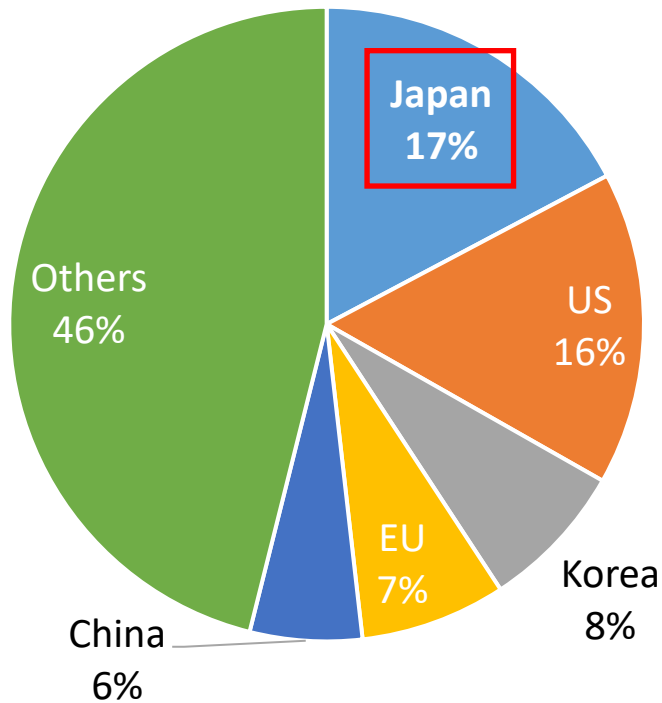
**Ryosuke Fujioka**

# Co-created Supply Chain in Mekong Sub-region

- In terms of accumulated FDI in ASEAN from 2012 to 2022, **Japan is the biggest partners in Manufacturing sector** which is a main engine of exports
- Mekong countries and Japan have co-created global supply chain across the region through the **joint efforts between Japanese firms and local partners.**

Accumulated FDI to ASEAN in Manufacturing Sector (2012-22)

Japanese Firm's Procurement Source for Materials and Parts in 2023



# Ref. Drives toward Decarbonization (e.g. CBAM, Global Firm's Request)

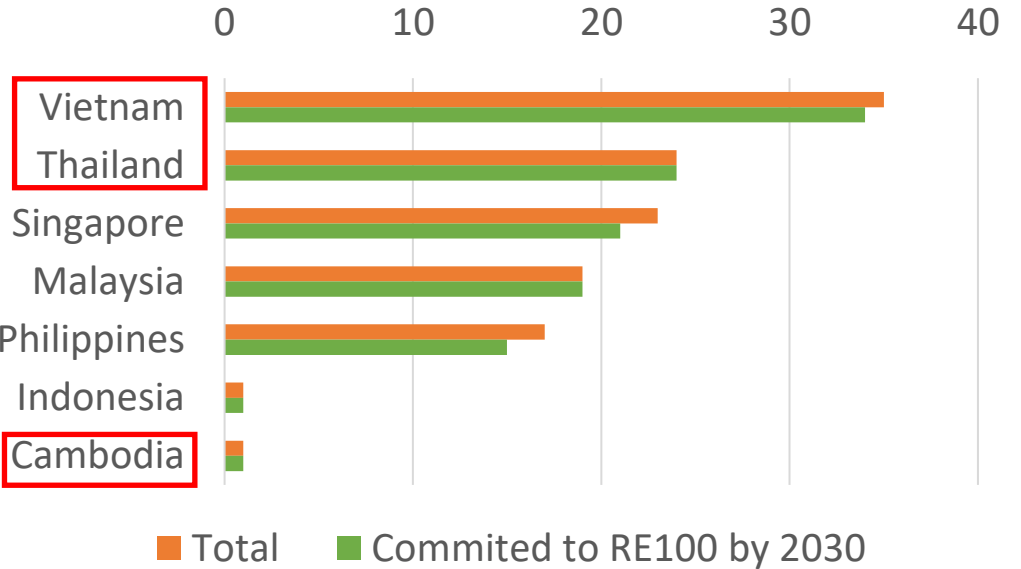
- Firms have to accelerate decarbonization due to rules imposed by final markets. One of the example is CBAM and **companies doing business with EU have to reduce CO2 emission of the targeted products (steel etc.) to keep its competitiveness.**
- In addition, there are some pressure from global firms. Apple, for example, **globally requests its supplier to use 100% renewable electricity for its products by 2030.**

## CBAM's Impact on ASEAN

- The EU **requested firms to report the CO2 emission of targeted imported goods** from last October. The CBAM will be fully in place in 2026
- **Many workshops have been conducted in ASEAN** to provide the information about mandatory reporting.

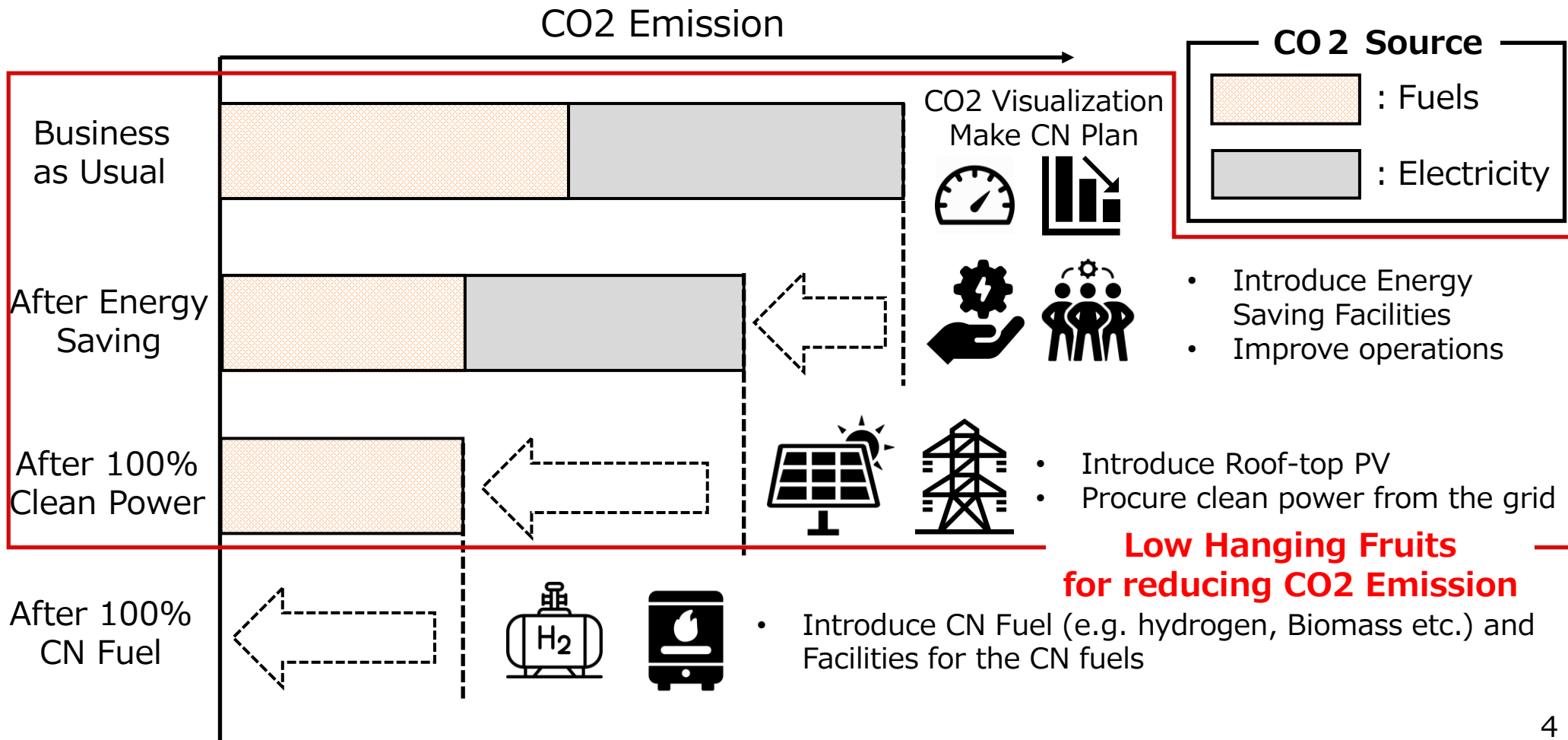
## Apple's Suppliers Location in ASEAN

- Manufacturing process of their business partners accounts for **about 60% of the entire CO2 emission of Apple's products.**
- **Almost all suppliers committed to Apple's request** and are switching electricity to renewables.



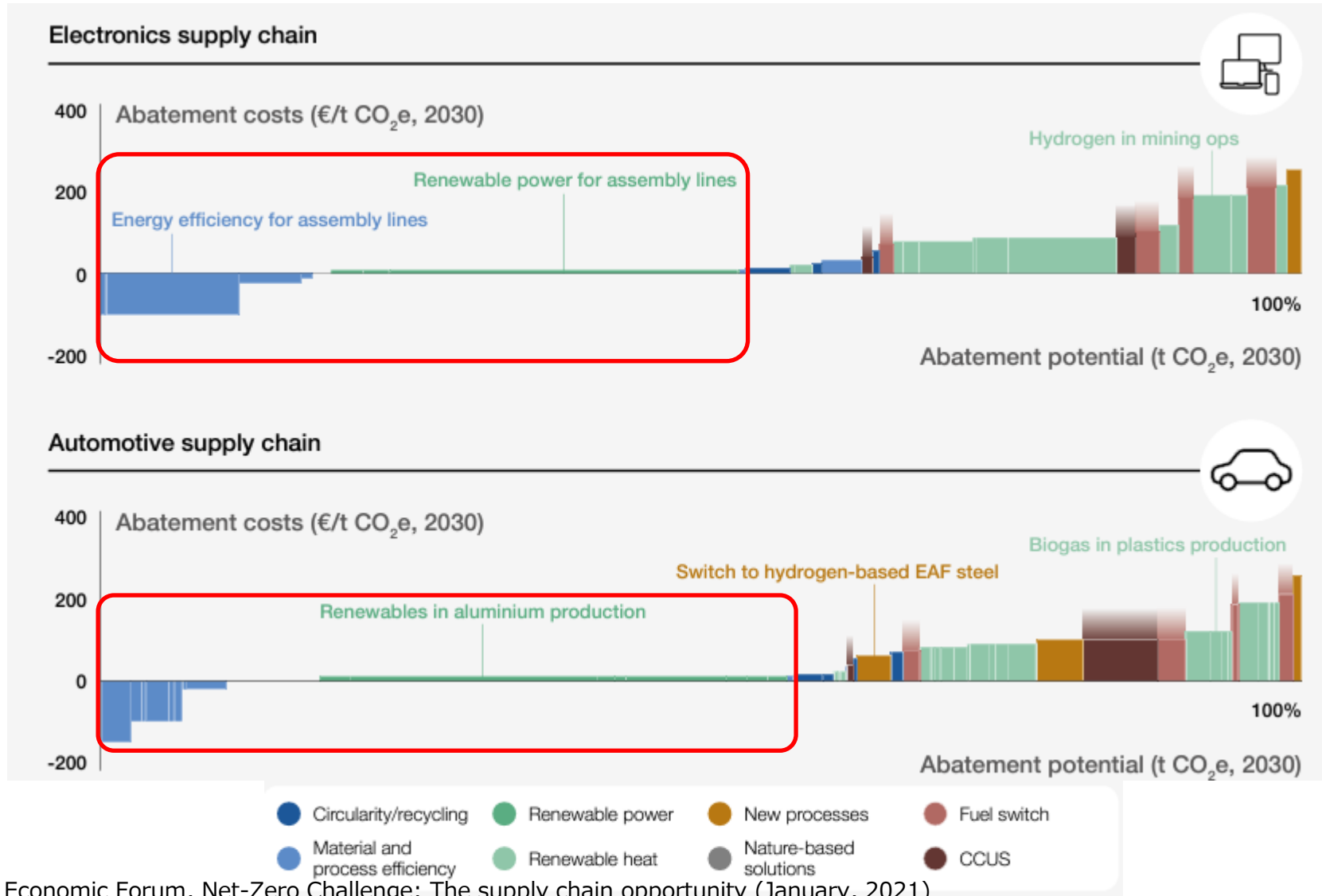
# Ref. Basic Cooperate Strategy toward Carbon Neutrality

- Energy saving and introducing renewable energy after CO2 visualization are low-hanging fruits to reduce CO2 emission in a cost-effective way.
- Skilled persons are necessary in firms especially when visualizing CO2 emission, developing decarbonization plan and implementing operation improvements.



# Ref. Cost-Efficiencies of Each Decarbonization Method

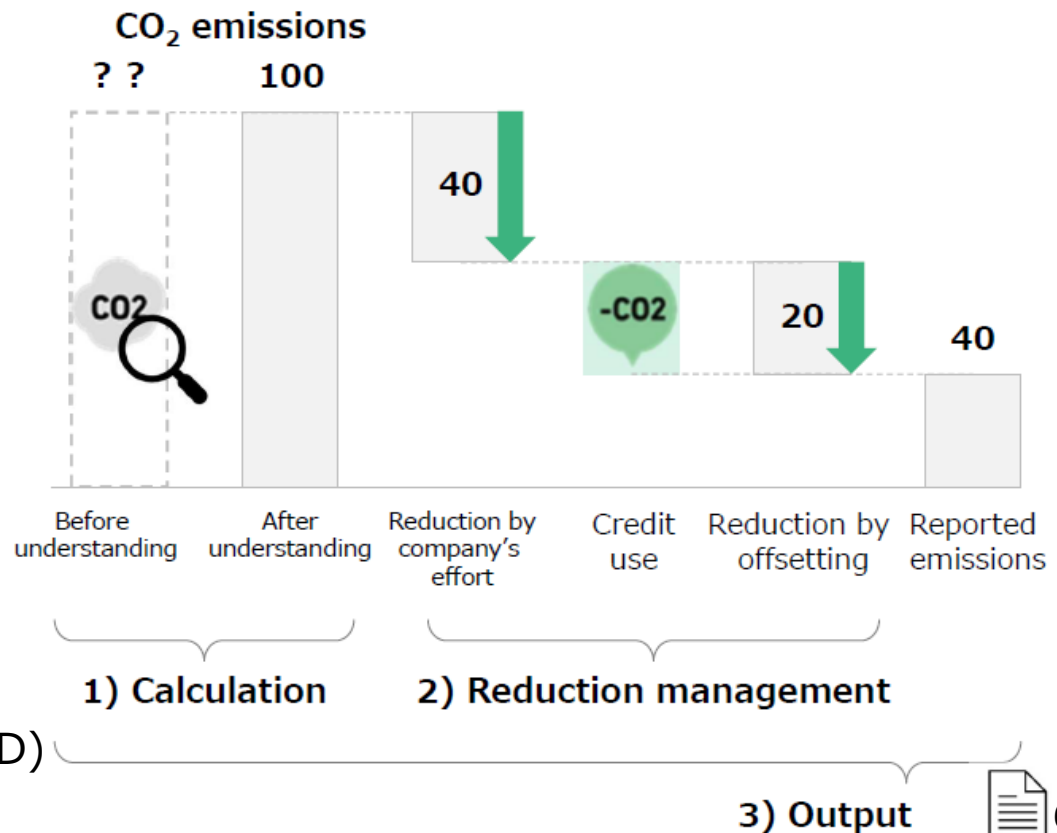
- Increasing energy and material efficiency and introduction renewable energy can contribute significantly to decarbonize the entire supply chain in the cost-efficient way.



# CO2 Visualization with IT System (Ex. Zeroboard)

- CO2 visualization is a first step toward CN. However, **information acquisition cost is quite expensive** especially for SMEs whose resources are limited.
- To overcome this challenge, several firms provide IT solutions. Zeroboard, for example, develops and provides **cloud service to calculate and visualize CO2 emission data** for firms who don't have expertise.
- Since its establishment in 2021, Zeroboard has provided the system to **about more than 6,000 firms and set up Thailand office** to expand its business to ASEAN.

## 【Outline and Feature of Zeroboard's Service】



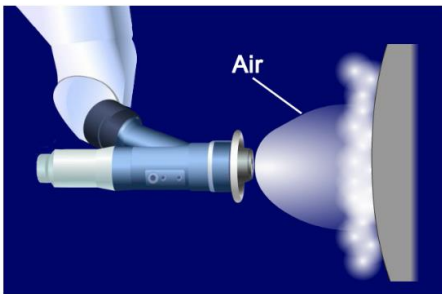
- ① Supply chain emissions calculations
- ② CO2 Reduction Management on Dashboard
- ③ Output in multiple report formats (e.g. TCFD)

# Two Approaches to Increases Energy Efficiency

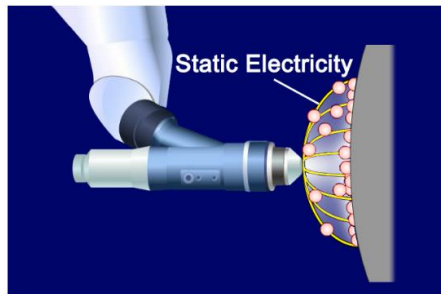
- Not only introducing machines which consume less energy but also eliminating “waste of process” and “waste of energy” through KAIZEN activities are effective to improve energy efficiency
- Taking advantage of IoT sensors is generally useful to acquire information more efficiently and effectively to figure out wastes, starting point of KAIZEN

## Example of Higher-Efficient Assets

- Toyota has developed a new paint atomizer that achieves over 95% coating efficiency, which could lead to 7% reduction of CO2 in painting process in Toyota
- The machine uses static electricity instead of air to avoid particles scattered.



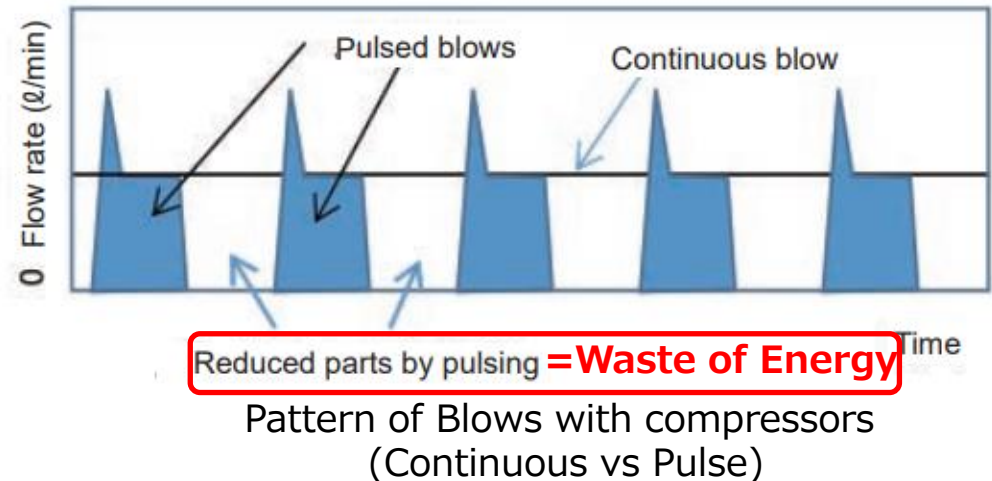
Conventional  
Paint Atomizer



The Latest  
Paint Atomizer

## Example of Eliminating Waste of Energy

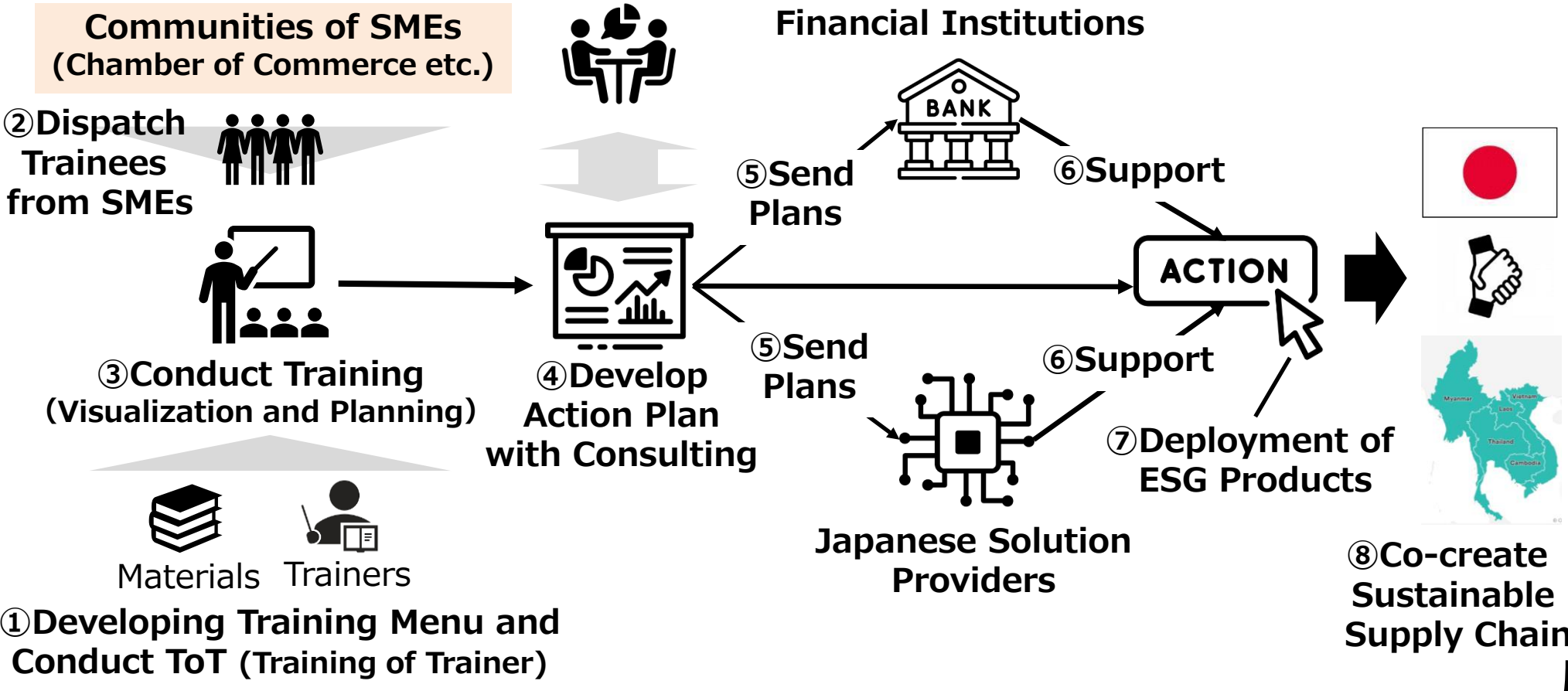
- A plastic products manufacturer blows the air to remove plastic refuse with compressors
- By changing an on-going continuous blow to a pulsed blow, airflow rate have been lowered by 50% without affecting a blow effect



# Overview and Entire Flow of Mekong Sustainable Supply Chains Transformation and Advancement Project

- To develop more sustainable supply chain through accelerating green transformation (GX) in the Mekong sub-region, Japan starts new project to provide GX training to local SMEs and facilitate matching with GX solution providers and financial institutions.

## ① Preparatory Research about global and regional trends and local stakeholders



① Developing Training Menu and Conduct ToT (Training of Trainer)

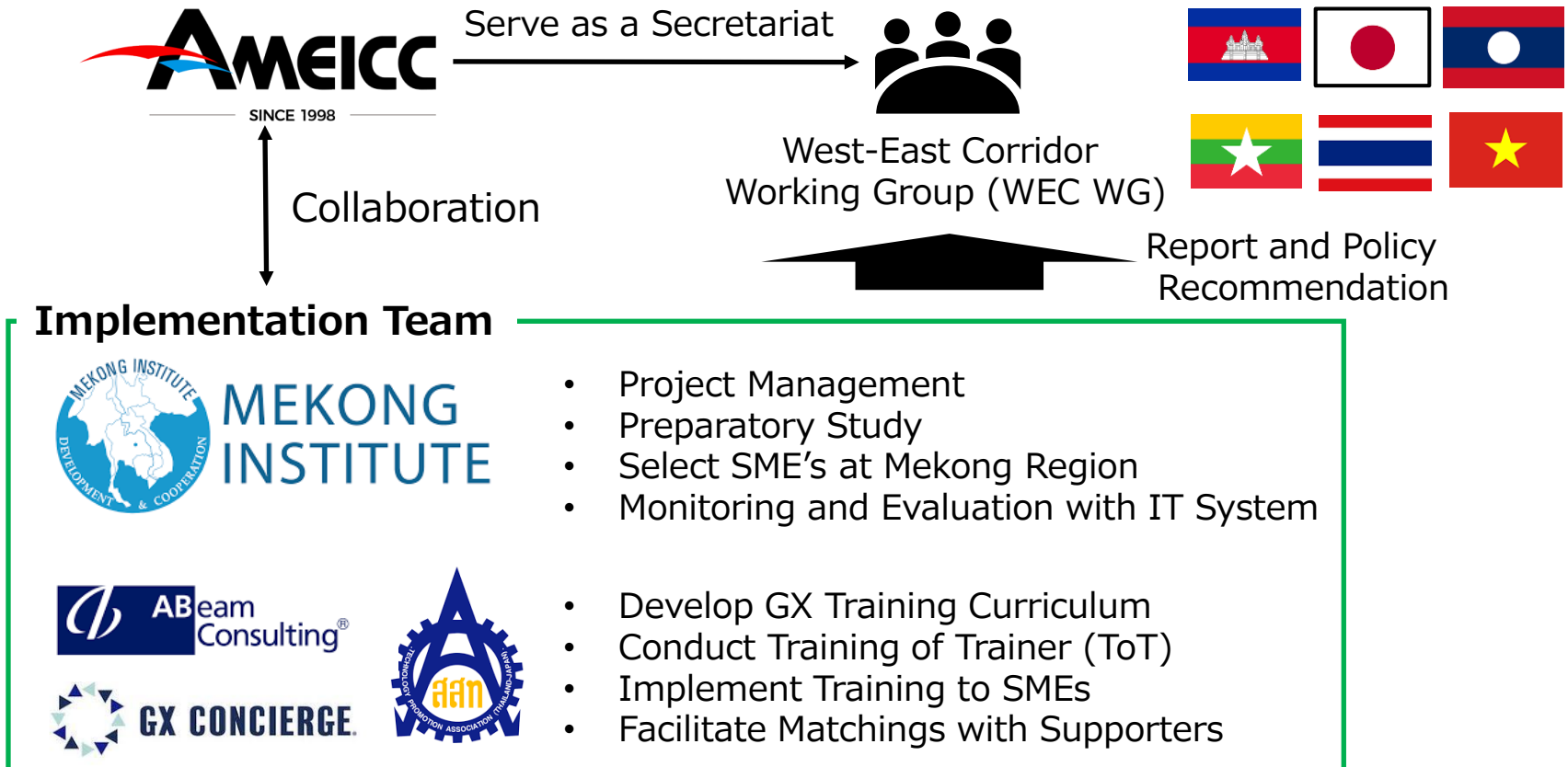
⑨ Monitor actions through IT System and report to WEC-WG



# Key Information and Implementation Structure

## <Basic Information of the project>

- Duration: About 2 Years (From August 2024 to June 2026)
- Output: 150 Trained SMEs in Mekong region
- Priority Industry: Automobile, Textile and Food & Agriculture
- Implementation Team: Mekong Institute, ABeam, TPA (Technological Promotion Association (Thai-Japan))
- Note: Report the results with policy recommendation to WEC-WG and future plan for expansion in terms of the number of SMEs, other ESG factors than decarbonization



# Conclusions

- Japanese firms have co-created global supply chain across Mekong Sub-region in collaboration with local partners.
- Yet, in order to maintain or increase the global competitiveness, the asset should be upgraded through GX and DX due to several issues such as CBAM and pressures from global business partners.
- 1. CO2 visualization, 2. Increasing energy efficiency and 3. Introduction of renewable energy are the cost-effective ways to accelerate GX and digital technologies are strongly related to those decarbonization measures.
- To support the decarbonization efforts of local SMEs with resources constrains, AMEICC starts new projects in collaboration to provide capacity building to the SMEs and facilitate matching with GX solution providers and financial institutions
- Although AMEICC started the new project, more efforts are necessary for each government to provide enablers such as GX talents, finance and institutions (e.g. rules and regulations) through their public policy to develop more resilient and sustainable supply chain.