



Ministry of the Environment

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## The Overseas Expansion of Eco-business in the Era of Living With the Coronavirus - Focusing on Asian Countries -

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### 17th Kawasaki International Eco-Business Forum

January 21, 2021  
Ministry of the Environment - Global  
Environment Bureau



# International Deployment of Environmental Infrastructure

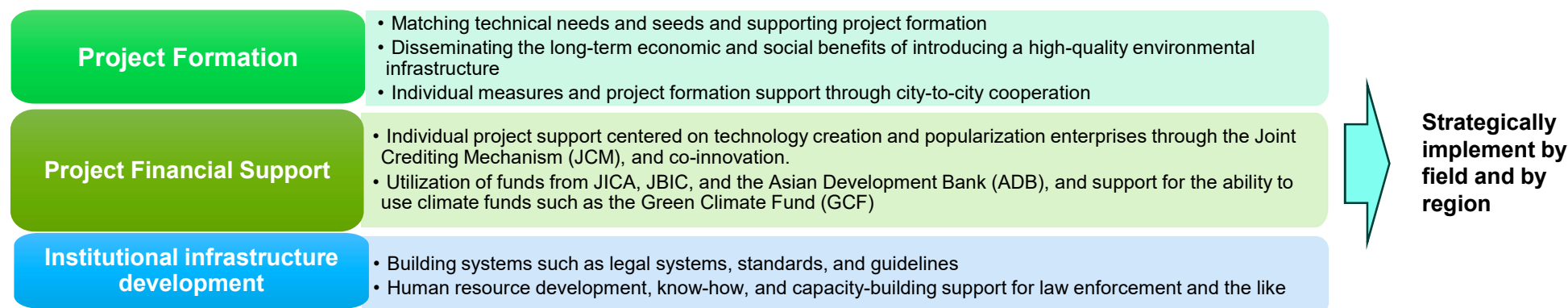


- In the government-wide policy "Infrastructure System Overseas Deployment Strategy 2025" (Dec. 10, 2020), two of the three pillars were **Carbon Neutral** and **SDGs Achievement**. Decarbonization and the environment are at the core of the infrastructure policy.
- Proceed **with the decarbonization transition** of other countries based on this strategy
- Top sales and **packaging support** up to systems, technologies, and finance, and implement dissemination of economic and social effects by **collaborating with private companies, municipalities, other ministries and domestic and international aid agencies**.

## 1. Implementation of top sales utilizing bilateral policy dialogs, intraregional forums, and the like

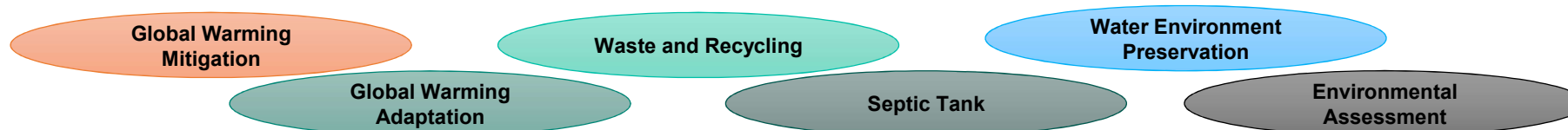
- Set up **Japan Environmental Week** in developing countries, and introduce multiple themes of environmental technologies and others **by attending political affairs or high-level** meetings.
- An Environmental Infrastructure Technology Seminar is held by inviting government officials from developing countries in all regions, and Japanese environment-related companies, and others **disseminate Japan's environmental infrastructure technologies and know-how**.

## 2. Dissemination of package support and economic and social effects from systems, to technical and financial



## 3. Strengthen implementation systems by collaborating with private companies, municipalities, other ministries and domestic and international aid agencies.

- Matching seeds to the needs of other countries by launching **environmental infrastructure overseas deployment platforms**



# National and Local Decarbonization Realization Conference



- In the speech delivered by Prime Minister Suga at the 203<sup>rd</sup> Diet (October 26, 2020), he declared his goal to achieve a **"carbon neutral, decarbonized society by 2050" with zero greenhouse gas emissions on the whole by 2050.**
- In order to realize carbon neutrality by 2050 through cooperation and co-creation between the national and local governments, national and local decarbonization meetings will be held as a forum for discussions on **the roadmap** toward its realization from the perspective of the citizens and people living there, and **concrete policies implemented by the national and local** governments to realize it, with a particular focus on **local initiatives and areas closely related to the lifestyle of the people.**
- At the first meeting on December 25, 2020, discussions were held based on the draft roadmap and the efforts of each province and local government. In the future, we plan to discuss the implementation of the roadmap and policies to realize it by holding several meetings and hearings with all relevant parties.
- In the speech delivered by Prime Minister Suga at the 204<sup>th</sup> Diet (January 18, 2021), he declared the economic effect **of ¥190 trillion per year** and **significant job creation** in 2050 by attracting **overseas environmental investment**, also said to be **¥240 trillion, dormant as cash deposits** for private companies, and **¥3,000 trillion**, creating a framework for financial markets for this purpose, to implement a green growth strategy.



First National and Local Decarbonization Realization Conference (December 25, 2020)

# Inter-city Collaboration Project (2013-2020)

**13** countries, and **38** cities and regions  
**15** municipalities in Japan participated

\* 2020 Project

Maldives		
1	Malé City	Toyama City
India		
2	Bangalore City	Yokohama City
Myanmar		
3	Yangon Region	Kitakyushu City
4	Yangon City	Kawasaki City
5	Ayeyarwady Region	Fukushima City
6	Sagaing Region	Fukushima City
7	Mandalay City	Kitakyushu City
8	Yangon City	Fukuoka City
9	Sagaing Region, Ayeyarwady Region	Fukushima City
Mongolia		
10	Ulaanbaatar City	Sapporo City, Hokkaido Government
11	Ulaanbaatar City, Töv Province	Sapporo City
Laos		
12	Vientiane Special City	Kyoto City

Viet Nam		
13	Haiphong City	Kitakyushu City
14	Da Nang City	Yokohama City
15	Ho Chi Minh City	Osaka City
16	Kien Giang Province and Others	Kobe City
17	Can Tho City	Hiroshima Prefecture
18	Sóc Trăng Province	Hiroshima Prefecture

Thailand		
19	Bangkok Bangkok Port and Laem Chabang Port	Yokohama City (Yokohama Port and Wharf)
20	Rayong Province	Kitakyushu City
21	Chiang Mai Province	Kitakyushu City
22	Eastern Thailand Region	Osaka City

Cambodia		
23	Phnom Penh	Kitakyushu City
24	Siem Reap Province	Kanagawa Prefecture

Malaysia		
25	Iskandar Development Region	Kitakyushu City
26	Iskandar Development Region and Kota Kinabalu City	Toyama City
27	Penang City and others	Kawasaki City
28	Kuala Lumpur	Tokyo

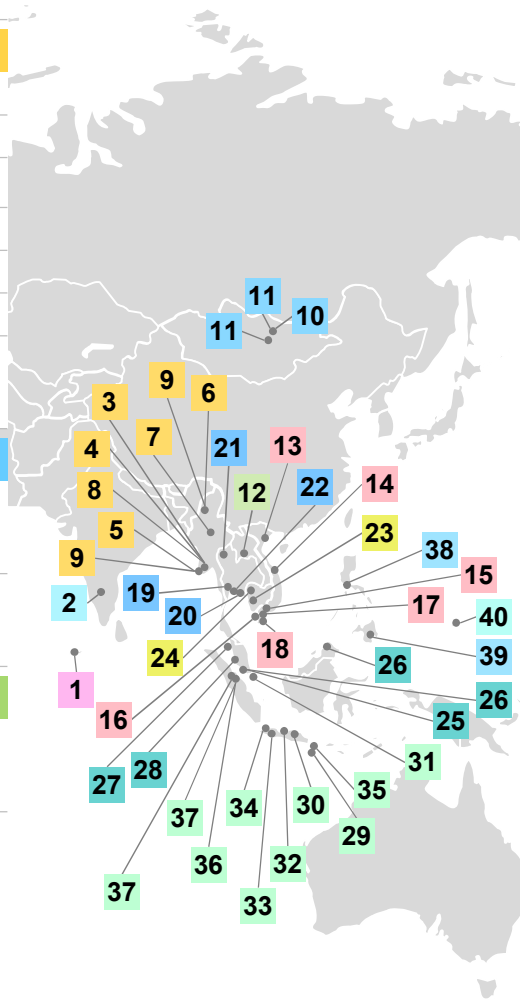
Indonesia		
29	Denpasar City	Tokyo One Set
30	Surabaya City	Kitakyushu City
31	Batam City	Yokohama City
32	Semarang City*	Toyama City
33	Bandung City	Kawasaki City
34	Jakarta Special State	Kawasaki City
35	Bali*	Toyama City
36	Riau Lokanul Province	Kawasaki City
37	Riau, Lokanul Province, and Pekanbaru City	Kawasaki City

\*Bali and Semarang City are joint collaborative projects

Philippines		
38	Quezon City	Osaka City
39	Davao City	Kitakyushu City

Palau		
40	State of Koror	Kitakyushu City

Chile		
41	San Diego Renka Ward	Toyama City





# About the JCM \*Joint Crediting Mechanism

- Contributes to global warming measures through the popularization of excellent low-carbon technologies in developing countries, and appropriate evaluations of Japan's contributions to reducing emissions, and utilization to achieve Japan's reduction targets.
- Using this system, technologies and products with excellent environmental performance generally have high initial costs and face the challenges of popularization in developing countries (support relating to project composition such as JCM funding support projects is being implemented).



Cement waste heat recovery power generation  
(JFE Engineering)



Digital Tachograph  
(Nittsu)



Convenience Store Energy Conservation  
(Lawson)  
Energy-saving equipment: Made by Panasonic



Industrial-use high efficiency air conditioner  
(Ebara heating and cooling)



High-efficiency boiler for heating  
(Mathematical Plan)



Energy-saving loom  
(Toray)  
Loom: Made by Toyota Industries Corporation



Solar-power power generation  
(Pacific Consultants Co., Ltd.) Solar panel: made by Kyocera



High-efficiency amorphous metal transformer  
(Yuko Keiso) Amorphous metal: made



Cogeneration system  
(Toyota Tsusho) Cogeneration system: made by Kawasaki Heavy



High-efficiency air conditioner  
(Ricoh, NTT Data Institute of Management Consulting, Inc.) Made



Solar-power power generation  
(Farmdo)



Waste power generation  
(JFE Engineering)



High-efficiency refrigerator  
(Maekawa Manufacturing)



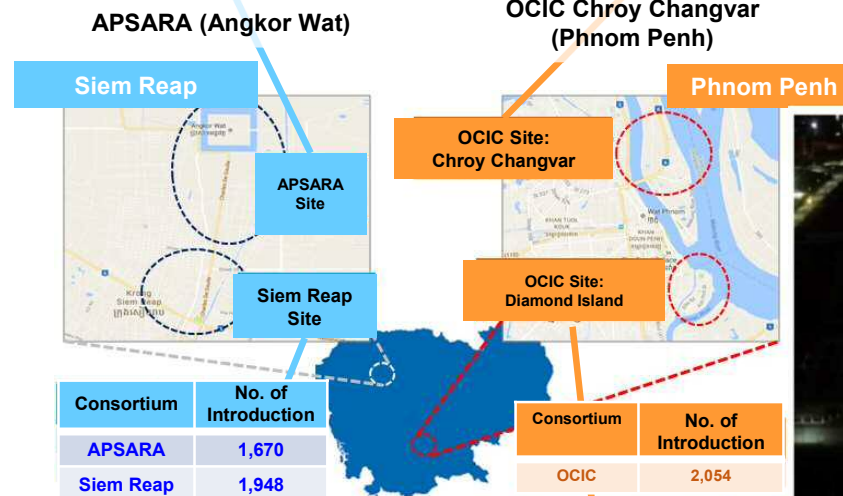
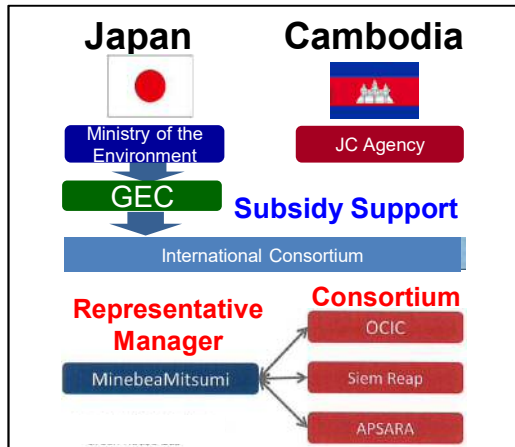
High-performance industrial furnace  
(regenerative burner) (Toyotsu Machinery Corporation)



High-efficiency LED Street Light  
Wireless Control (MinebeaMitsumi)

# JCM equipment assistance project: Expansion to Smart City centered on LED street light networking in Cambodia

- LED street lights have been installed as street lights from emerging cities to world heritage sites, achieving 70% energy savings.
- Started joint study with local organizations with the aim of building a smart city environment around the deployment of wireless networking environments at installed LED street lights.
- Introduction of LED 5600 street lamps in various parts of Cambodia such as Phnom Penh and Angkor Wat (total installed area: 120 m<sup>2</sup>)



Total installed area of LED street lamps: **120km<sup>2</sup>**  
(equivalent to approximately twice the area inside the Yamanote Line)



Received the Cambodian Minister of the Environment Award in December, 2016

Cambodia Domestic Business Development Results



Siem Reap Provincial Hall (SRPH)



Diamond Island (Phnom Penh)





# JCM equipment assistance project: 400 MW solar power project in the Rabigh area (Saudi Arabia)



## 400MW solar power generation projects in the Rabigh area

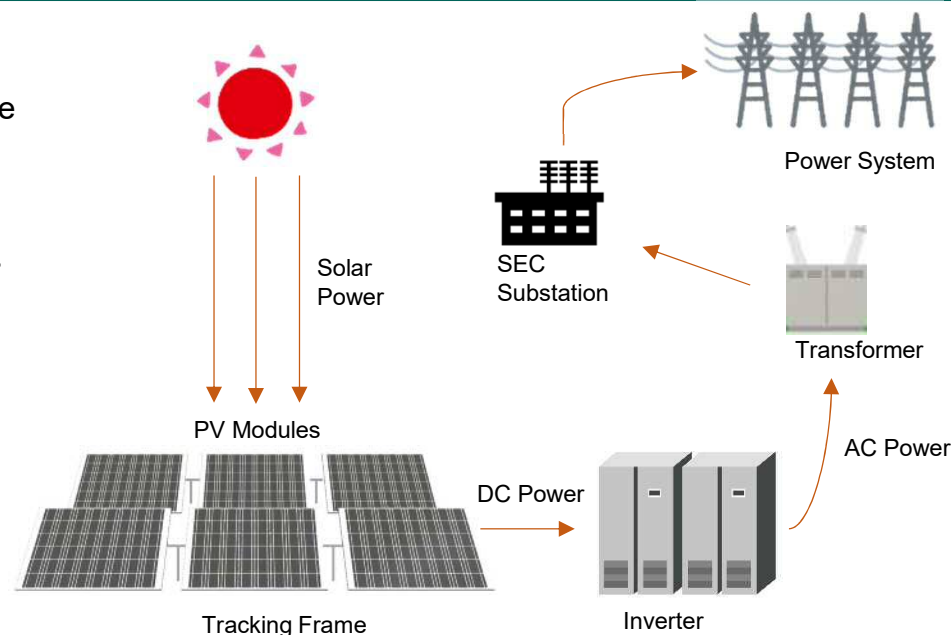
Project implementer: Marubeni Corporation (Japan side), Al Jomaih Energy & Water Company, Ltd. (Saudi side)  
South Rabigh Renewable Energy Company

### Overview of GHG emission reduction project

This project will construct a 400-MW solar power generation plant in the Rabigh area.

Construction, ownership and operation of the power plant will be implemented by a company newly setup for this project, and power will be sold to the power company for 25 years. By adopting a duplex light-receiving PV module and a single-axis tracking frame, it is possible to generate electricity efficiently.

This supplies renewable energy to grid power in Saudi Arabia and contributes to the reduction of the country's greenhouse gas (GHG) emissions.



### Estimated GHG emission reductions

**477,129 tCO<sub>2</sub>/year**

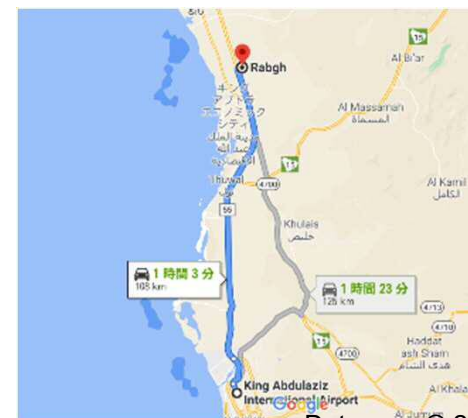
= Reference CO<sub>2</sub> emissions

- Project CO<sub>2</sub> emissions

- Reference CO<sub>2</sub> emissions  
= Project-power generation [MWh/year]  
× emission factor [tCO<sub>2</sub>/MWh]
- Project CO<sub>2</sub> emissions  
= 0 [tCO<sub>2</sub>/year]

### Implementation Site

Approximately 119 km north of King Abdulaziz International Airport in Makkah Province, the Kingdom of Saudi Arabia



Data map © 2020 Google

# JCM equipment assistance project: Introduction of energy-saving equipment to the complex in Yangon City smart urban development project



## Introduction of energy-saving equipment to the complex in Yangon City Smart Urban Development Project

Project implementer: (Japan side) Yuko Keiso Co., Ltd.; (Myanmar side) Kajima Yankin PPP Company Limited

### Overview of GHG emission reduction project

The aim is to promote sustainable urban development through smart urban development and to contribute to the popularization of environmental improvement technologies in the country in a large complex consisting of offices, a hotel, commercial facilities, and the like in the Yankin district of Yangon City, which Kajima Corporation is promoting jointly with the JOIN (Japan Overseas Infrastructure Investment Corporation for Transport and Urban Development).

In this project, the following will be introduced: (1) high-efficiency chillers, (2) air conditioners with integrated heat exchangers, (3) heat pump water heaters, and (4) parking lot ventilation systems.

Equipment Name	Installation Location
High-efficiency chiller	Hotels, commercial facilities and common areas
Air conditioner with integrated heat exchanger	Offices and hotel
Heat-pump water heater	Long-term stay hotel, hotel
Parking ventilation system	Common Areas



[Yankin District Compound Development Conceptional Drawing at Completion]

Including local contribution facilities  
(children's learning facilities, transportation plaza, disaster prevention facilities, and others)

### Estimated GHG emission reductions

**1,544 tCO<sub>2</sub>/year**

= [Reference power usage amount

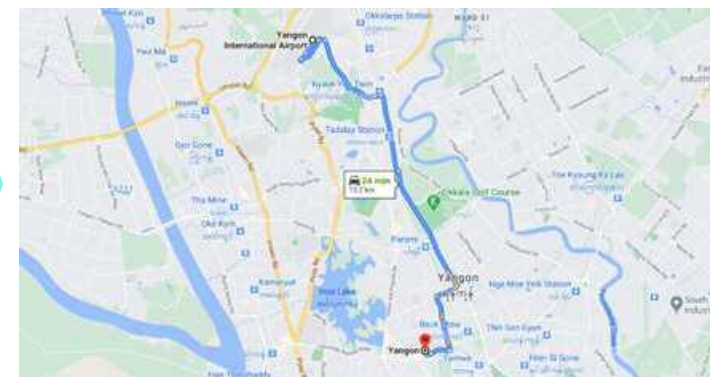
- Project power usage amount] x emission factor (EF)

- (1) High-efficiency chiller: 322 tCO<sub>2</sub>/year
- (2) Air conditioner with integrated heat exchanger: 239 tCO<sub>2</sub>/year
- (3) Heat pump water heater : 738 tCO<sub>2</sub>/year
- (4) Parking ventilation system: 245 tCO<sub>2</sub>/year

### Implementation Site



Approximately 13 km south of Yangon International Airport



Map data © 2020 Google

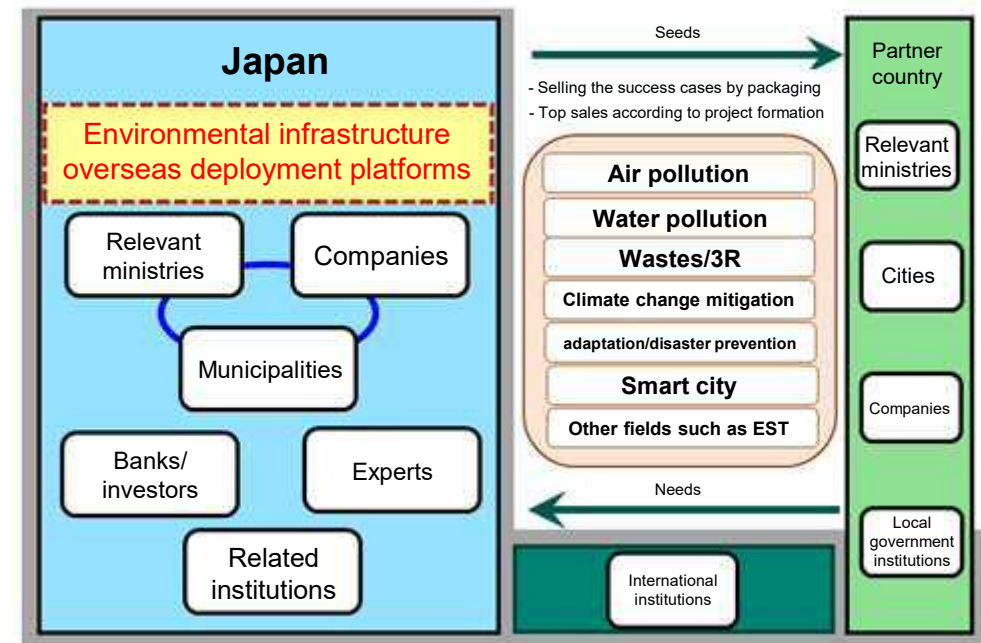


# Environmental infrastructure overseas deployment platforms

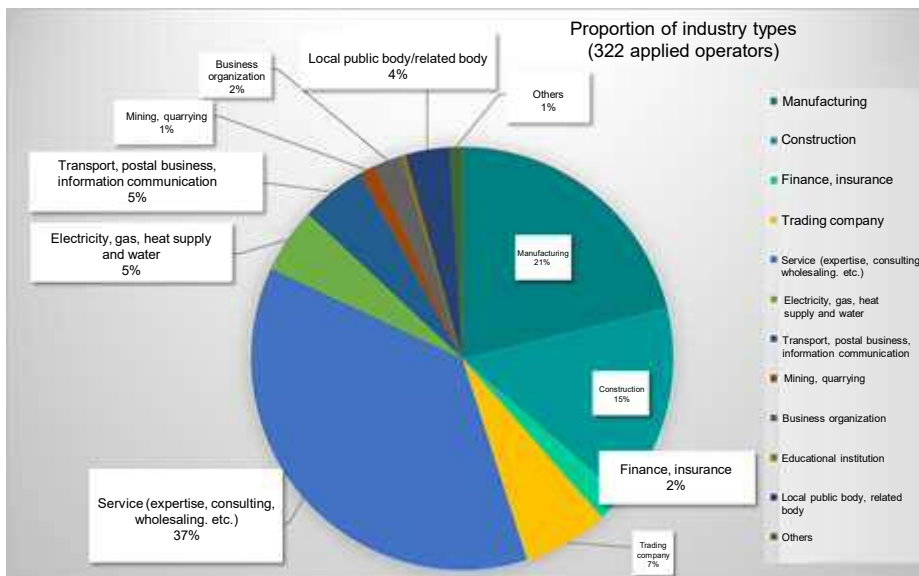


## Overview

- By forming a network of relevant ministries, related institutions, municipalities, private companies, financial institutions, and experts, and the like, and by strengthening the ability to make proposals and business matching, will build a mechanism **to support the activities of private companies and related parties.**
- By supporting access to information, human resources, and capital and the like across sectors, the process from **project formation to equipment installation based on the needs of the other countries** is efficiently and effectively advanced, and the creation of autonomous private enterprise projects is accelerated.



■ **322 organizations** participate in the platform. (As of December 28, 2020)



## Establishment Ceremony



# Image of utilization of environmental infrastructure overseas deployment platforms

- In each phase of environmental infrastructure project formation, utilize each function to its maximum, and support the formation and implementation of projects by companies and municipalities

