



Ministry of the Environment

Recent Development of the Joint Crediting Mechanism (JCM)

February 26, 2021

Ministry of the Environment ,Japan



1. Overview of the JCM

2. Financial support scheme

3. Recent Development of the JCM

Progress of the JCM

- Started in 2013, 17 countries have joined the partnership.

Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Lao PDR, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, Thailand and Philippines

- 197 projects in the pipeline
- 90,710 credits issued from 38 projects
- 65 projects registered
- 88 MRV methodologies approved

JCM official website
<https://www.jcm.go.jp/>



Waste heat recovery in cement industry (Indonesia)
122,000 tCO₂/y.
Start operation: Dec. 2017



Waste to Energy plant (Myanmar)
4,732 tCO₂/y.
Start operation: Apr. 2017



Floating solar power (Thailand)
2,552 tCO₂/y.
Start operation Jan. 2020



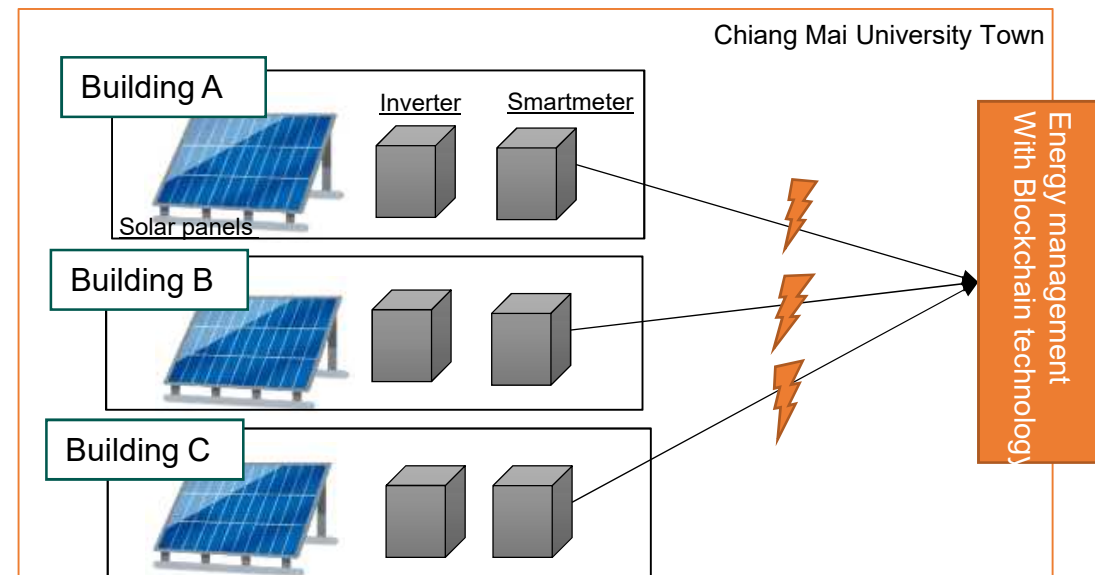
High efficiency transformers in power grids (Viet Nam)
7,972 tCO₂/y.
Start operation 2016-2018

Preliminary Selection Result for Financing Programme for JCM Model Projects in FY2020

- **25 Projects** have been selected:
 - 21 renewable energy projects and 4 energy-saving projects.
 - Renewable energy projects: 15 solar power PJs, 1 geothermal power PJ etc.
- **Solar power project utilizing blockchain technology** is selected for the first time. Project that combine multiple energy-saving technologies is also selected as **smart city project**.
- The size of the projects is getting larger.
(Average reduction: FY2020: 30,000 tons, FY2019: 17,000 tons, FY2018: approx. 11,000 tons)



Introduction of Energy Saving Equipment to Complex Buildings of Smart Urban Development Project in Yangon



2.5MW Solar Power Project with Blockchain Technology in Chiang Mai University Town Community



Technologies Transferred through JCM by MOEJ(FY2013-2020)

- Total of 180 JCM Projects being developed in 17 partner countries
- 43% are energy efficiency and 47% are renewable energy
- Effective use of Energy, Transport, Waste to energy, F-gas Recovery and Destruction and REDD+ project shares 10%

※Since there are projects to introduce multiple technologies, the number of projects and the number of technologies do not match.

As of February 1, 2021

Waste(3PJs) 2%

- Waste to Energy(2)
- Power Generation with Methane Gas(1)

Transport(3PJs) 2%

- Digital Tachographs(1)
- Modal Shift(1)
- CNG-Diesel Hybrid (1)

REDD+(2PJs) 1%

- Controlling slush and burn(2)

F-gas counter measure(2PJs) 1%

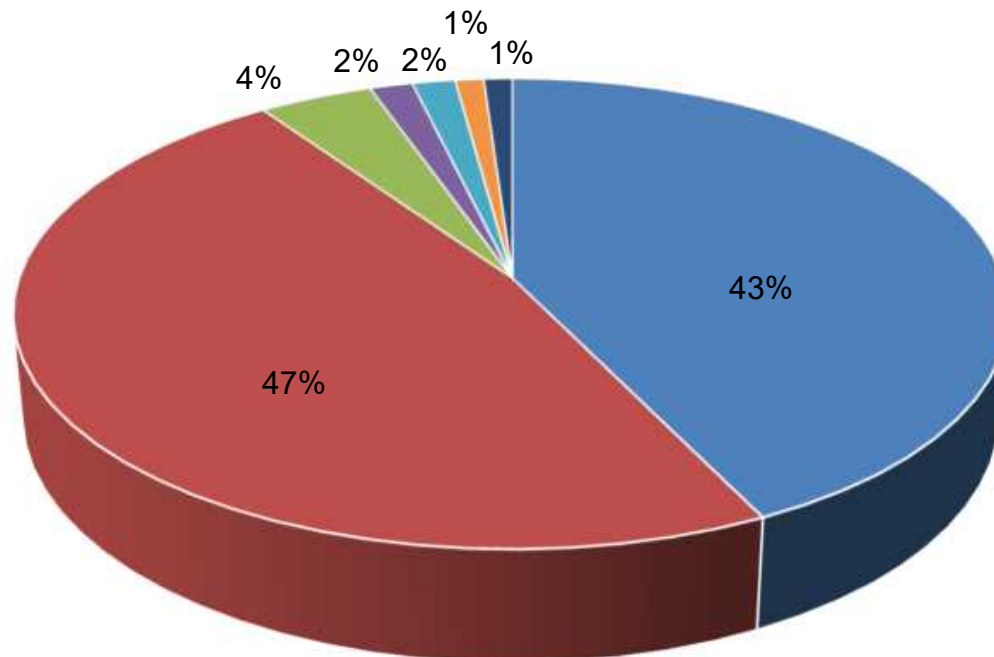
- Recovery & Destruction(2)

Effective Use of Energy(8PJs) 4%

- Waste Heat Recovery(3)
- Gas Co-generation(5)

Renewable energy(89PJs) 47%

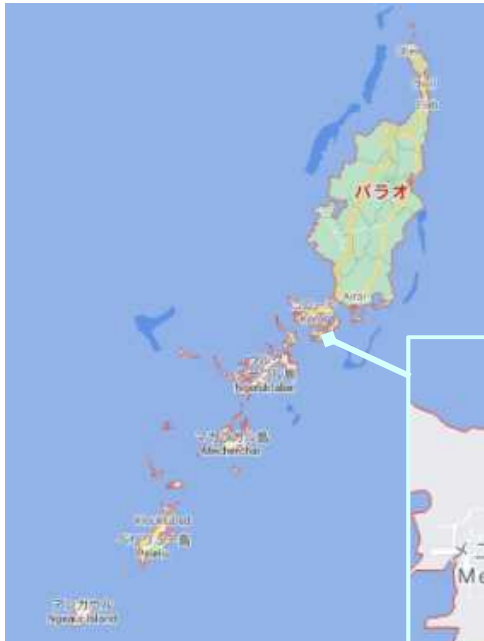
- Solar(&Storage battery)(64)
- Micro hydro(11)
- Wind(1)
- Biomass(8)
- Geothermal(1)



Energy efficiency(80PJs) 43%

- Boiler(9)
- Air Conditioning(5)
- Refrigerating/Chiller(27)
- Looms(4)
- Transformer(5)
- LED Lighting(6)

JCM Model Projects in Palau



JCM Model Project (2014)
[have been started operation]
Small-Scale Solar Power Plant for Commercial Facilities in Island States Project II



JCM Model Project (2013)
[have been started operation]
Small-Scale Solar Power Plant for Commercial Facilities in Island States Project

JCM Model Project (2018)
[have been started operation??]
Introduction of 0.4MW Rooftop Solar Power System in Supermarket

JCM Model Project (2014)
[have been started operation]
Solar PV System for Schools Project



JCM Model Project (2019)
Introduction of 1MW Solar Power System on Supermarket Rooftop



Supporting Advanced Technologies through the JCM Model Projects

Energy-saving infrastructure

Carbon capture and storage (CCS)



Solar power generation



Wind power generation



Hydrogen



Use of ammonia fuel

Waste power generation



Geothermal power generation



Hydropower generation



Storage battery and system management



JCM Model project supports advanced technologies such as hydrogen and CCS etc. as described above.

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FY2021 JCM Finance Scheme proposed by MOEJ

Government of Japan

Finance part of an investment cost (less than half)



Conduct MRV and expected to deliver about half of JCM credits issued

International consortiums (which include Japanese entities)



Specify relevant SDGS goals in projects of Ministry of the Environment, Japan

Proposed budget for projects starting from FY 2021 is about 10 billion JPY (approx. USD 100 million) * in total by FY2023

(1 USD = 100 JPY)

*including

- Financing Program to Demonstrate Decarbonization Technology for Realizing Co-Innovation
- Cooperation with Third Countries for Hydrogen Production and Utilization



Fuel Cell Bus

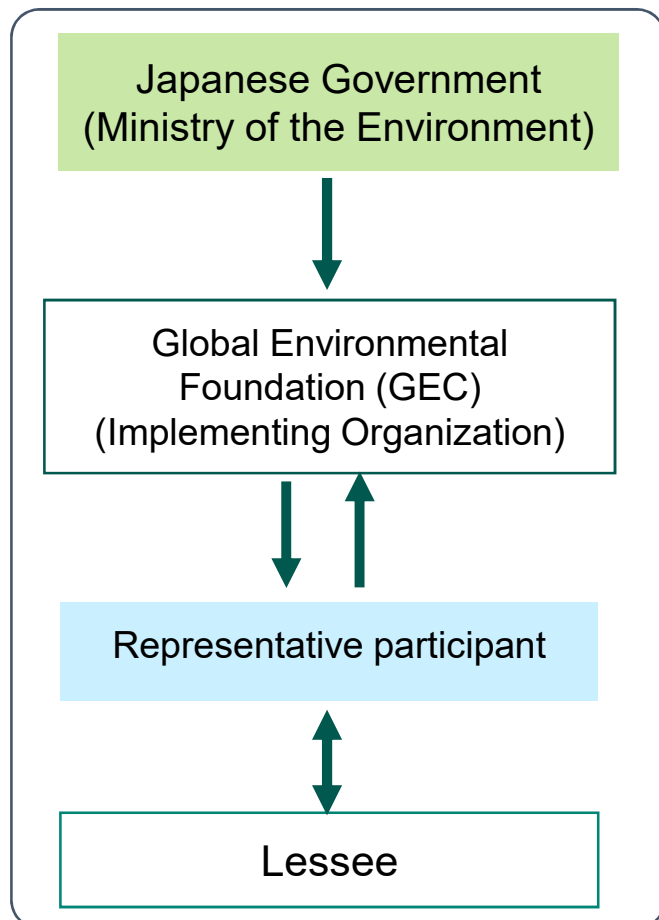


Self-supporting hydrogen energy supply system (for Business Continuity Plan)

JCM Model Projects by MOE (JCM ECO Lease Scheme)

- “JCM Eco Lease” scheme is financial support for leasing businesses.
- Financial support is uniformly 10% of total leasing charge including leasing interest.
- Leasing period is at least 5 years.

Chart of JCM ECO Lease Scheme



< Merit >

- Shorter MRV period
 - Equivalent to leasing period (At least 5years)
- Simplified process
 - Less documents for application
 - No need to develop new methodology (Only applicable to approved methodology)

< Examples of eligible facilities/equipment >



PV



High Efficiency equipment

JCM F-gas Recovery and Destruction Model Project by MOEJ

【Budget for FY 2021】

60 million JPY (approx. 0.60 million USD) (1 USD = 100JPY)

Finance part of the cost in flat-rate

Government of Japan

Conduct MRV to estimate GHG emission reductions. At least half or ratio of financial support to project cost (larger ratio will be applied) of JCM credits issued are expected to be delivered to the government of Japan

International consortiums (which include Japanese entities)

Manufacturers of equipment which uses F-gas

Users of equipment which uses F-gas

Entities for recovery and transportation of used F-gas (recycling or scrap entities)

Entities for destruction of used F-gas (may use existing facility for destruction)

Purpose: To recover and destroy F-gas (GHG except for energy-related CO₂, etc) from used equipment instead of releasing to air, and reduce emissions

Scope of Financing:

- Establish scheme for recovery and destruction
- Install facilities/equipment for recovery/destruction
- Implementation of recovery, transportation, destruction and monitoring

Project Period:

Three years in maximum (Ex. 1st year for scheme, 2nd year for facilities, 3rd year for recovery/destruction)



ADB Trust Fund: Japan Fund for Joint Crediting Mechanism (JFJCM)



Ministry of the Environment
Government of Japan

Budget for FY2021:

JPY 1 billion (approx. USD 10 million)

Scheme:

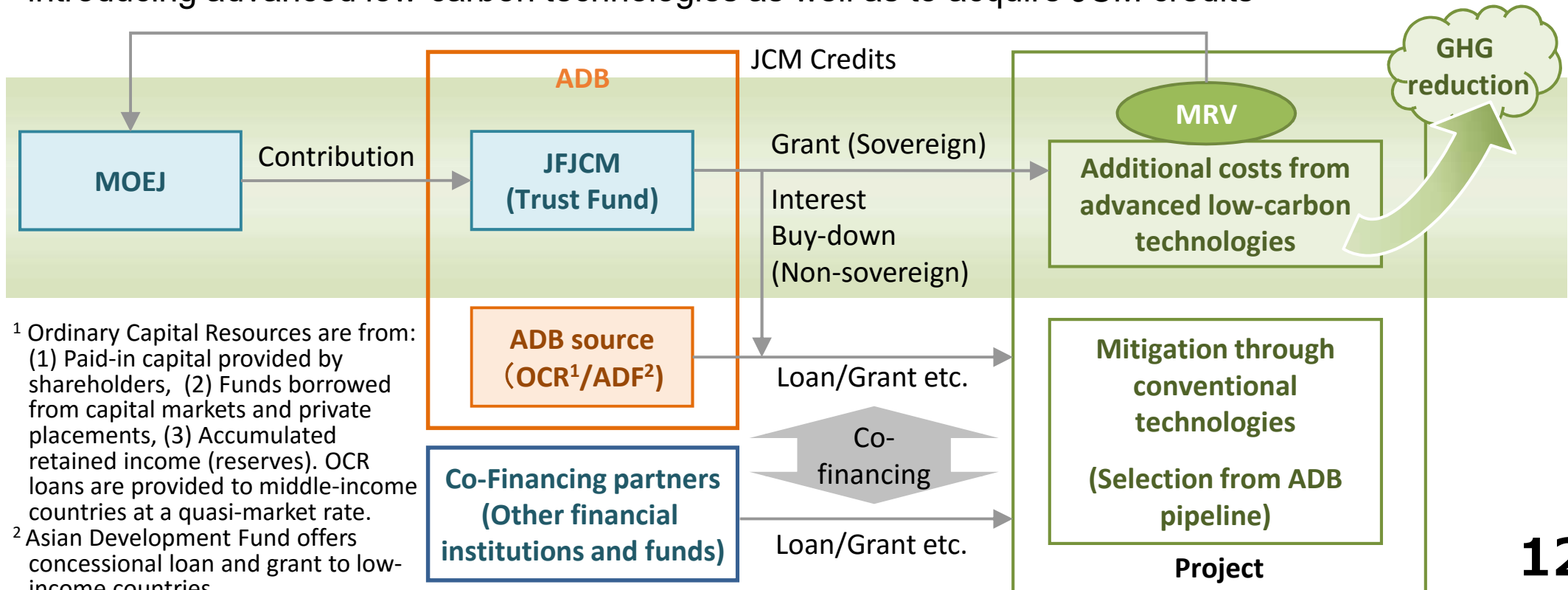
To provide the financial incentives for the adoption of advanced low-carbon technologies which are superior in GHG emission reduction but expensive in ADB(Asian Development Bank)-financed projects

Purpose:

To develop ADB projects with sustainable and low-carbon transition perspective by introducing advanced low-carbon technologies as well as to acquire JCM credits



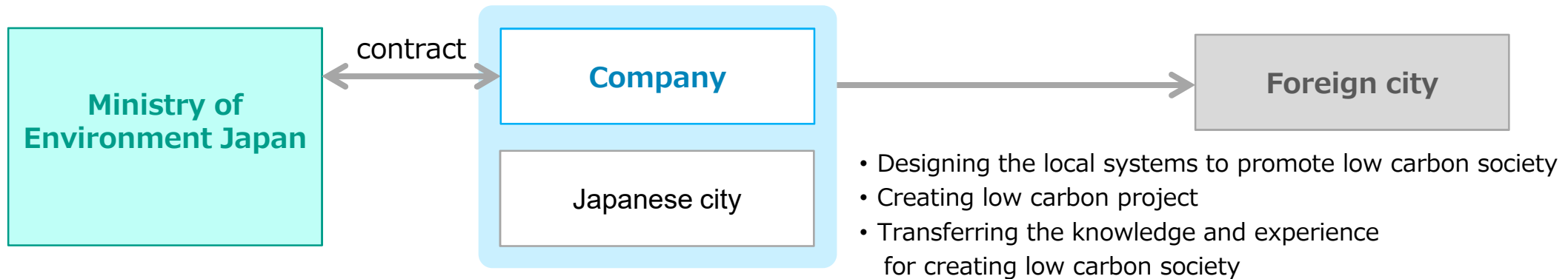
Maldives, POISED PJ



¹ Ordinary Capital Resources are from: (1) Paid-in capital provided by shareholders, (2) Funds borrowed from capital markets and private placements, (3) Accumulated retained income (reserves). OCR loans are provided to middle-income countries at a quasi-market rate.

² Asian Development Fund offers concessional loan and grant to low-income countries.

Program outline

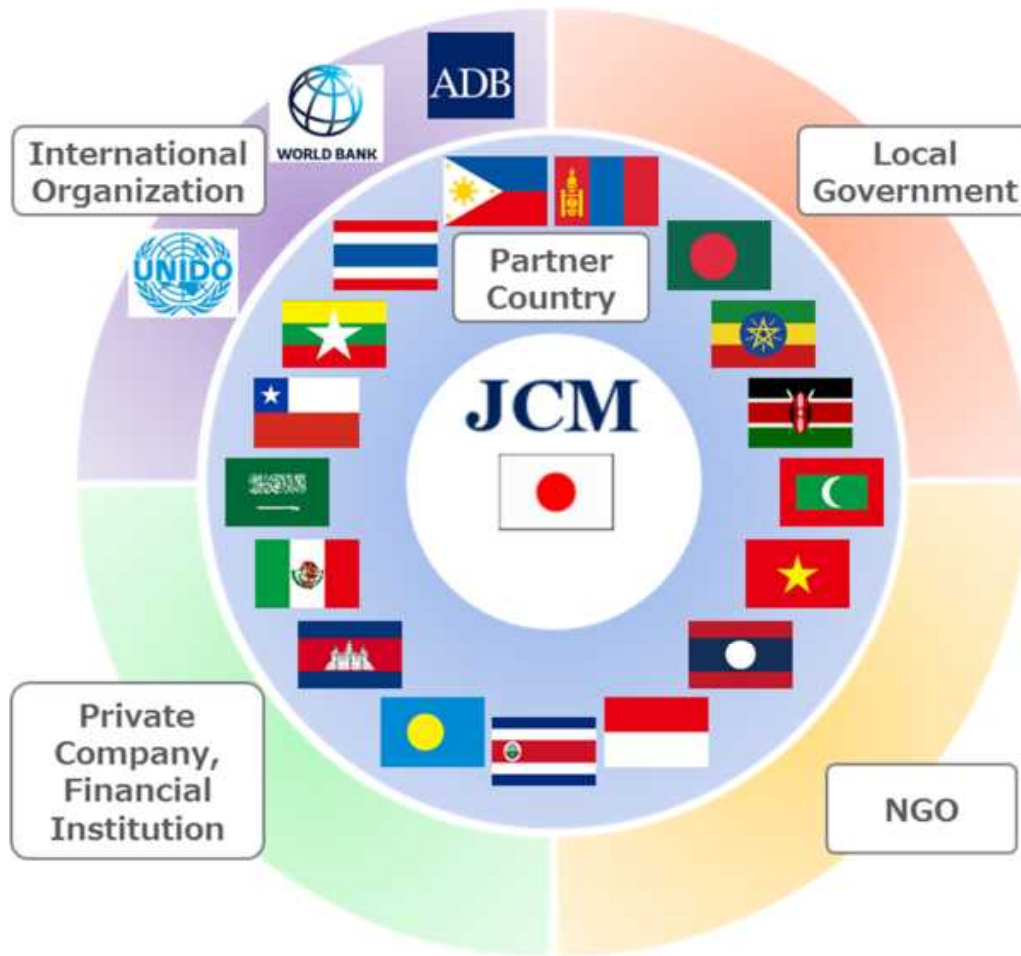


- -Basic concept is transferring the knowledge and experience of Japanese cities for creating low carbon society to foreign cities which have the mutual relationship.
- -Private companies formulate the consortiums with Japanese cities and support foreign cities to create low carbon cities.
Ex) Support to design city masterplan and install low carbon technology etc.

Main Outcome

- ✓ **Creating low carbon project** efficiently and effectively
- ✓ **Designing the local systems** to promote low carbon society
Ex) low carbon action plan and technology evaluation criteria etc.
- ✓ **Capacity building** for local staffs

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Three pillars of activities

JCM x Carbon Neutral Project

JCM supports Carbon Neutral projects

- Business matching seminars for project development, Seminars for city-to-city collaboration etc

JCM x Article 6

JCM as a project under the Article 6 of the Paris Agreement

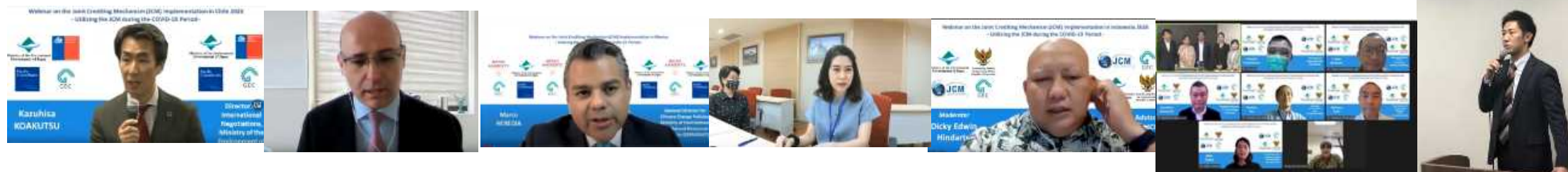
- Explanation and FAQ of Article 6 and JCM etc

JCM x SDGs

JCM projects contribute to the SDGs

- JCM SDGs report, Gender guidelines for JCM model project, Webinar on SDGs etc

From past seminars



Recent Development: Collaboration with International Organizations

■ ADB

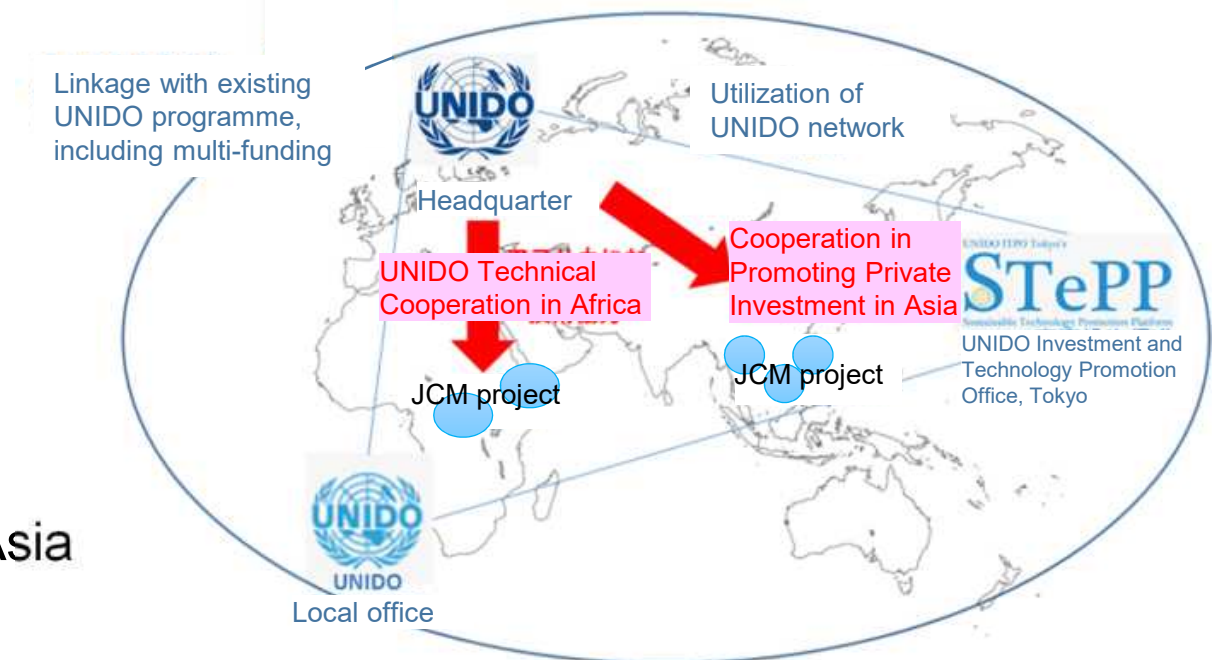
- Cooperation on Japan Fund for the JCM since 2013
- Collaboration on Paris Agreement Article 6 and SDGs
- Participation in WS held by ADB

■ World Bank

- Memorandum of Cooperation for scaling-up of the JCM. (Aug.27.2019)
- Develop the JCM by utilizing various World Bank's initiatives and programs
 - Partnership for Market Implementation(PMI), Innovate 4 Climate (I4C), Carbon Pricing Leadership Coalition (CPLC)
- (Future) Holding of seminars

■ UNIDO **NEW**

- Signed Joint Declaration on Environmental Cooperation in order to support the JCM. (Nov.10.2020)
- Cooperation in the formation of the JCM project in Africa and Asia

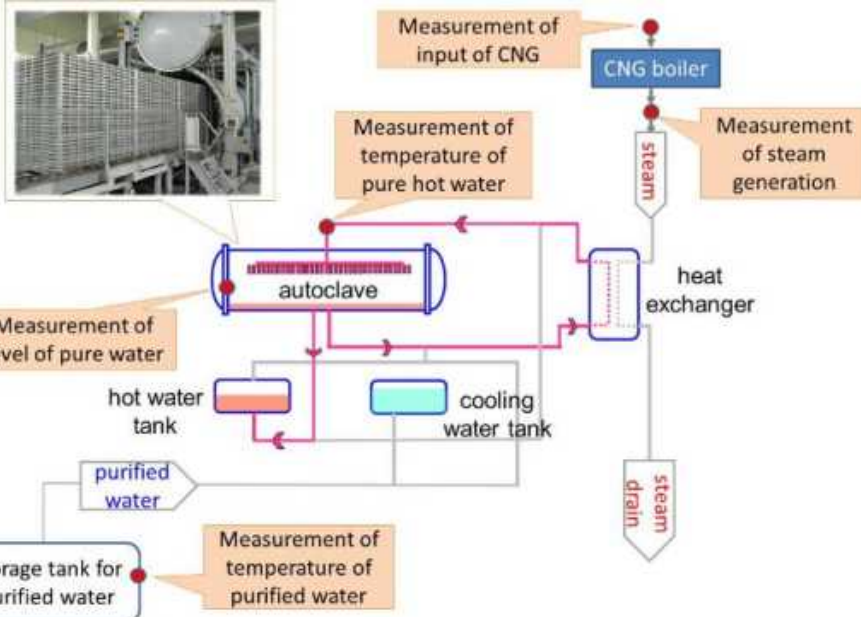


Addressing to COVID-19 through JCM Model Projects

- Damage caused by COVID-19 is serious in many countries with weak social infrastructure.
- JCM Model projects, which support local corporate activities, support the social infrastructure of countries and play an important role in “Sustainable and Resilient Recovery”.

Contribution to the medical supply chain

- ◆ Energy Saving by Introducing High Efficiency Autoclave to Infusion Manufacturing Factory
- ◆ Under the influence of COVID-19, it supported by expanding productivity while ensuring product safety in the sterilization process.



Contribution to the medical supply chain

- ◆ Introduction of High Efficiency Injection Molding Machine to Plastic Parts Factory
- ◆ Demand for plastic caps for bottles of chemicals such as alcohol increased sharply, but it responded to an unexpected increase in demand.



Manufacturing



Contribution to reducing infection risk

- ◆ Introduction of High Efficiency LED Lighting Utilizing Wireless Network
- ◆ Since it was possible to remotely control from Japan, there was no need to directly turn on/off the light, which contributed to the spread of infection.



Conclusion

- JCM will be further expanded through:
 - Advanced decarbonization technologies(ex. Hydrogen, CCS etc)
 - Diversification of finance to JCM projects
 - International collaboration (ex. Cooperation with international organizations etc.)
 - Regional cooperation (ex. ASEAN, Pacific region)

MOEJ will continue to promote the JCM as a pillar of decarbonization policy while deepening cooperation with partner countries.

