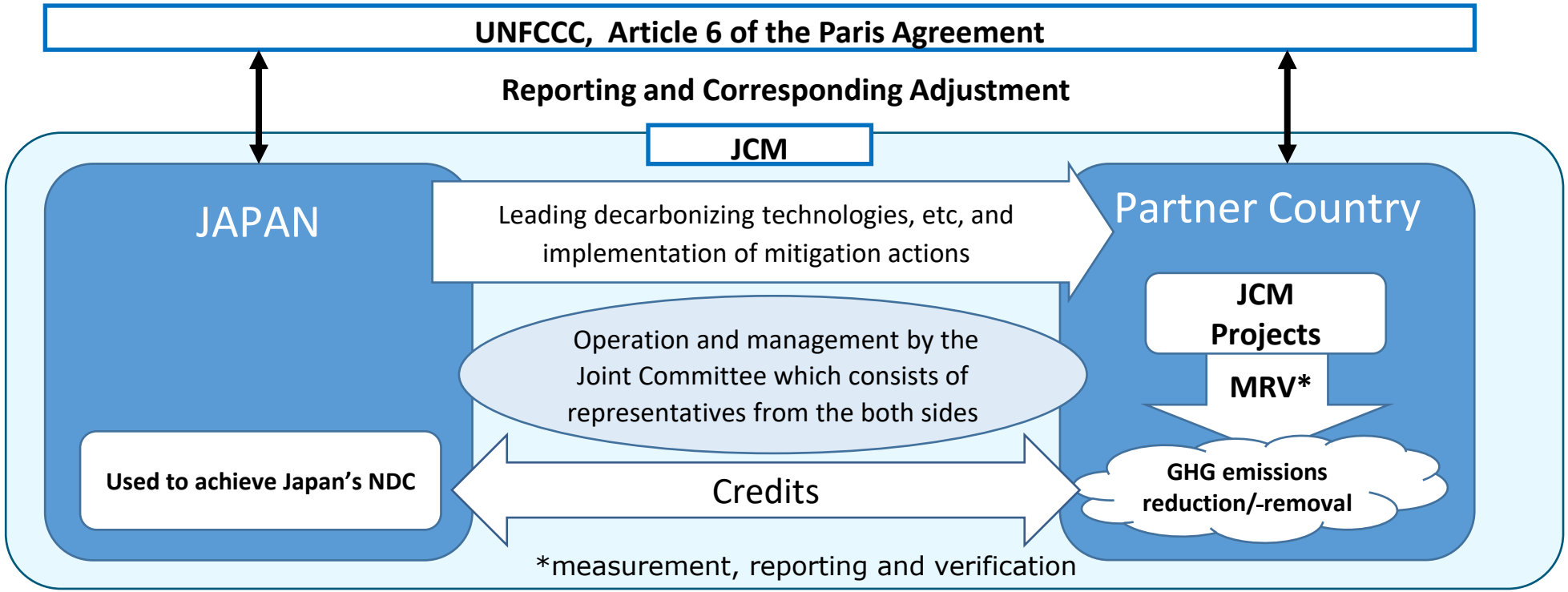
Ministry of the Environment

Recent development of the JCM (Joint Crediting Mechanism)

September 27, 2021

Ministry of the Environment ,Japan

Basic concept of the JCM and contribution to carbon neutrality



- **Cooperation towards achieving carbon neutrality,**

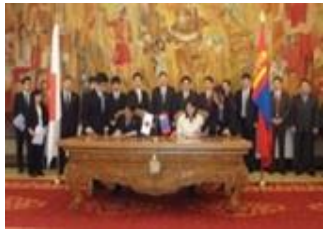
- With the expected agreement on the rules of Article 6 of the Paris Agreement at COP26 in this year, market mechanisms under the Article 6, including the JCM, will benefit not only for GHG emission reductions, but also for the sustainable development of the partner countries.

- Growing expectation for the JCM, allowing GHG emission reductions to be realized in partner countries and contributing to the achievement of both Japan and partner country's NDC.

- MoE Japan is strengthening key public-private partnerships to promote the development of "environmental infrastructures" overseas through JCM.

JCM Partner Countries

- Japan has held consultations for the JCM with developing countries since 2011 and has established the JCM with Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Lao PDR, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, Thailand and the Philippines.



Mongolia
Jan. 8, 2013

Bangladesh
Mar. 19, 2013
(Dhaka)

Ethiopia
May 27, 2013
(Addis Ababa)

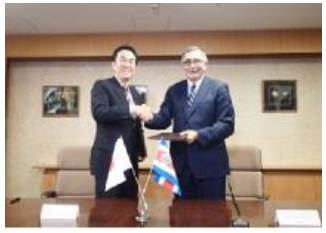
Kenya
Jun. 12, 2013
(Nairobi)

Maldives
Jun. 29, 2013
(Okinawa)

Viet Nam
Jul. 2, 2013
(Hanoi)

Lao PDR
Aug. 7, 2013
(Vientiane)

Indonesia
Aug. 26, 2013
(Jakarta)



Costa Rica
Dec. 9, 2013
(Tokyo)

Palau
Jan. 13, 2014
(Ngerulmud)

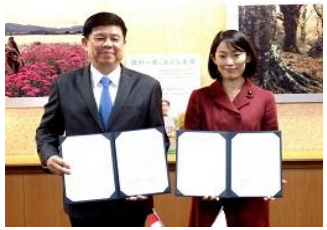
Cambodia
Apr. 11, 2014
(Phnom Penh)

Mexico
Jul. 25, 2014
(Mexico City)

Saudi Arabia
May 13, 2015

Chile
May 26, 2015
(Santiago)

Myanmar
Sep. 16, 2015
(Nay Pyi Taw)



Thailand
Nov. 19, 2015
(Tokyo)

Philippines
Jan. 12, 2017
(Manila)

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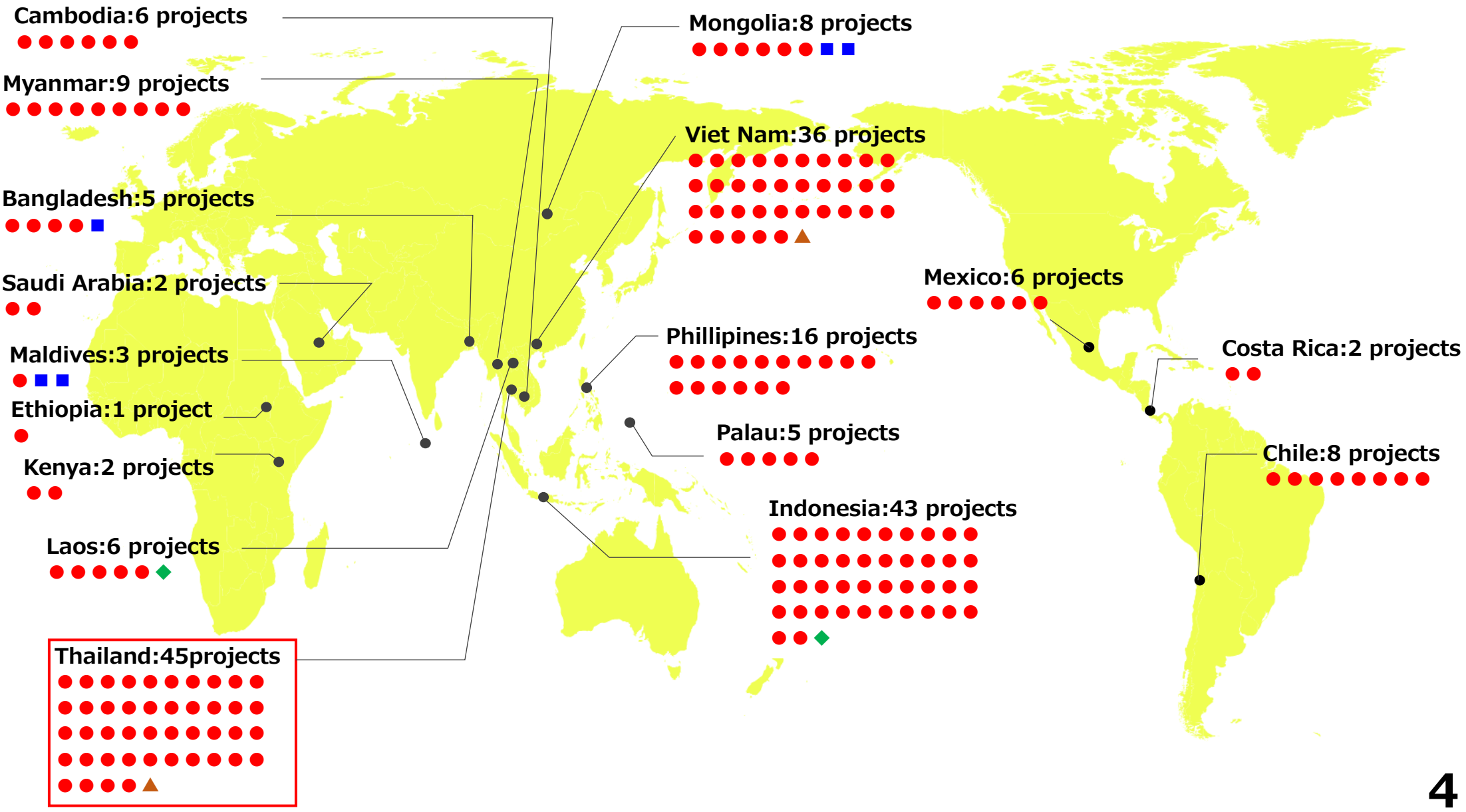
JCM Financing Programmes by MOEJ (FY2013～2021) (September, 2021)

Total 203projects (17 partner countries)

(●Model Project: 194 projects(including Eco Lease: 3project), ■ADB: 5 projects, ◆ REDD+: 2 projects, ▲F-gas: 2 projects) Other 1 project in Malaysia

118 projects have been started operation. **58 projects with** have been registered as JCM projects.



Examples of the JCM Model Projects

- Facilitating decarbonizing technologies through contributions from Japan
- Evaluating GHG emissions reduction in quantitative manner to issue the credit shared by the partner country and Japan

Upgrading air-saving loom at textile factory, TORAY etc., Indonesia, **Thai**, Bangladesh

Co-generation system at factory, Toyota, Nippon Steel Engineering, Indonesia, **Thai**

Solar Power System and High Efficiency Refrigerator, Kanematsu KGK Corp.,Thai

Floating Solar PV,TSB Co., Ltd.,Thai

Regenerative Burners in industries, Toyotsu Machinery, Indonesia

Waste heat recovery in Cement Industry, JFE engineering, Indonesia

CNG-Diesel Hybrid Public Bus, Hokusan Co., Ltd., Indonesia

High-efficiency air-conditioning system, Hitachi, Daikin, Vietnam

Hydro Power Plant, Chodai Co., Ltd., Philippines

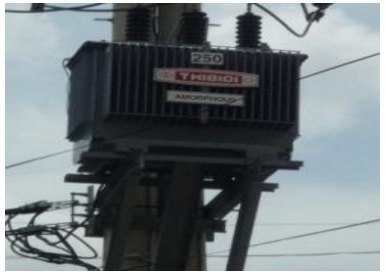
Power Generation with Methane Gas Recovery System,NTT DATA,Mexico

Energy saving at convenience stores, Panasonic, Indonesia

Waste to Energy Plant, JFE engineering, Myanmar

High-efficiency refrigerator, Mayekawa MFG, Indonesia

LED street lighting system with wireless network control, MinebeaMitsumi, Cambodia



Amorphous transformers in power distribution, Hitachi Materials, Vietnam

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Technologies Transferred through the JCM (FY2013-2021)

- Total of 203 JCM Model Projects being selected by MOEJ's Finance Programme in 17 partner countries
- 51% for renewable energy, 40% for energy efficiency, 9% for Effective use of Energy, Transport, Waste to energy, F-gas Recovery and Destruction and REDD+ project

Waste (4) 2%

- Waste to Energy
- Power Generation with Methane Gas

Transport (3) 1%

- Digital Tachographs
- Modal Shift
- CNG-Diesel Hybrid

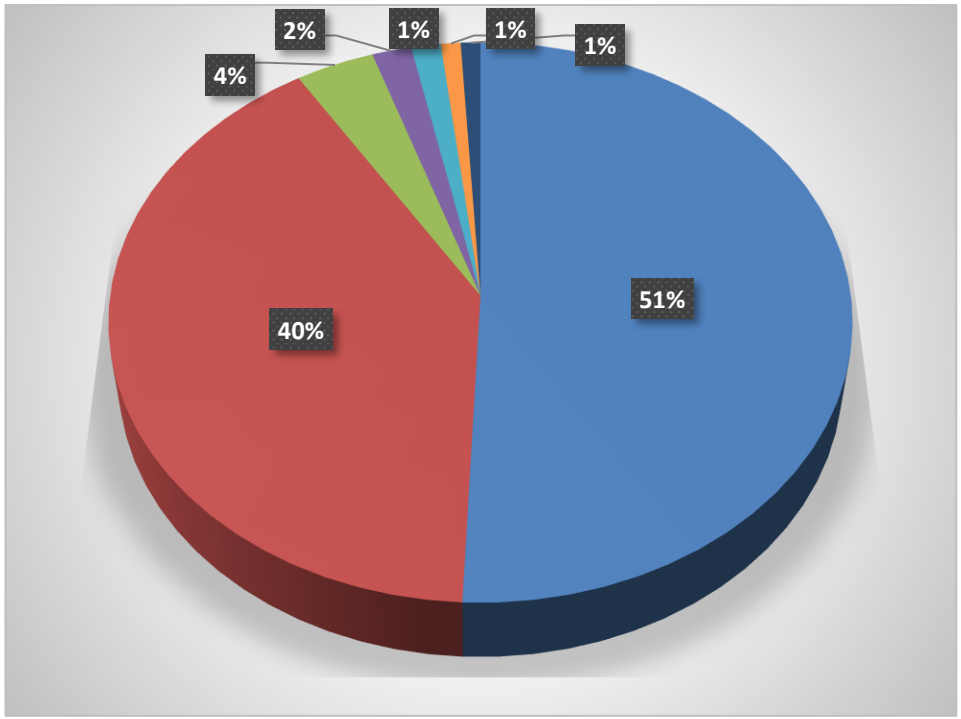
REDD+ (2) 1%

- Controlling slush and burn

September,2021

Effective Use of Energy (8) 4%

- Waste Heat Recovery
- Gas Co-generation



F-gas (2) 1%

- Recovery & Destruction

Energy efficiency (86) 40%

- Boiler
- Air Conditioning
- Refrigerating/Chiller
- Looms
- Transformer
- LED Lighting

Renewable energy (108) 51%

- Solar(&Storage battery)
- Micro hydro
- Wind
- Biomass
- Geothermal

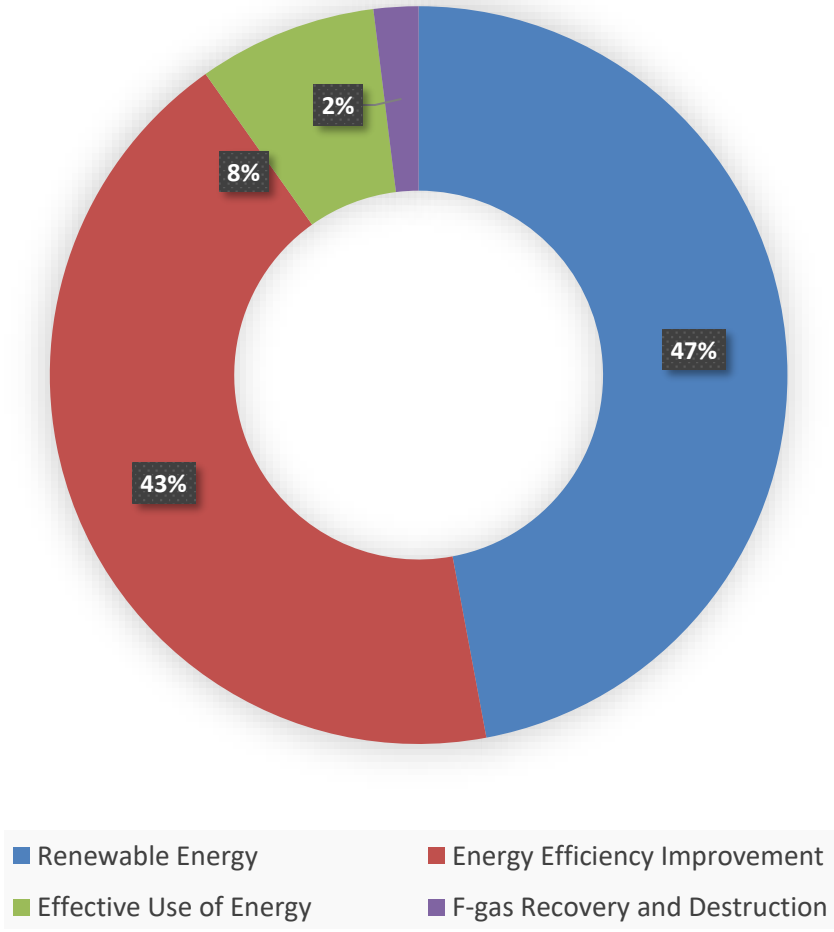
Recent development of the JCM in Thailand

Ministry of the Environment

- 7 JCM Model Projects were newly selected in FY2021.
- Renewable Energy projects account for the largest proportion, followed by Energy Efficiency Improvement projects.

Project Title	Sector
Introduction of High Efficiency Once Through Boiler to Garment Factory	Energy Efficiency Improvement
35MW Solar Power and Storage Battery Project in Suphanburi Province	Renewable Energy
Introduction of 23MW Rooftop Solar Power System to Tire Factories	Renewable Energy
Introduction of High Efficiency Boiler, High Efficiency Chiller, and Solar PV System to Textile Factory and Food Factory	Energy Efficiency Improvement/ Renewable Energy
Introduction of 2MW Rooftop Solar Power System to Non-ferrous Metal Factory	Renewable Energy
Introduction of 1.85MW Solar Power System to Food Factories (JCM Eco Lease Scheme)	Renewable Energy
Introduction of 0.13MW Solar Power System to Auto Parts Factory (JCM Eco Lease Scheme)	Renewable Energy

Percentage of JCM Financing Programmes in Thailand



Facilitating global expansion of Environmental Infrastructure through the JCM

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＜FY2030 Target＞

- **Aiming for a cumulative GHG emission reduction of about 100 million tons of CO2 from JCM projects through public-private partnerships**

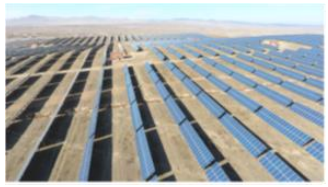
  (maximum project size of about 1 trillion Japanese Yen (approx. ten billion USD) through public- private partnerships with a diversification of funds accelerating the implementation of projects).

- The project will also be used for Japan's emission reduction goal.

⇒To realize above, MOEJ will proceed condition arrangement for JCM expansion

1. Renewable Energies

(Solar Power, Wind Power, Hydro Power, Geothermal Energy, Biomass Energy, Green Hydrogen, and so forth)



Solar Power

Wind Power

2. Green Logistics (Including Cold Chain)

(Non-Fluorocarbon Cooling System, Modal Shift, Airports, Ports and Harbors, and so forth)

High-Efficient Freezer

Modal Shift

3. Waste management Infrastructure

(Waste to Energy, Recycling system, Landfill and so forth)

Waste to Energy

Improvement of landfill (Fukuoka method)

※ Further including energy efficient facilities, effective use of energies, CCUS, fluorocarbons recovery and destruction, Johkasou, and REDD+, in addition to the above

FY2021 JCM Finance Programme by MOEJ

Government of Japan

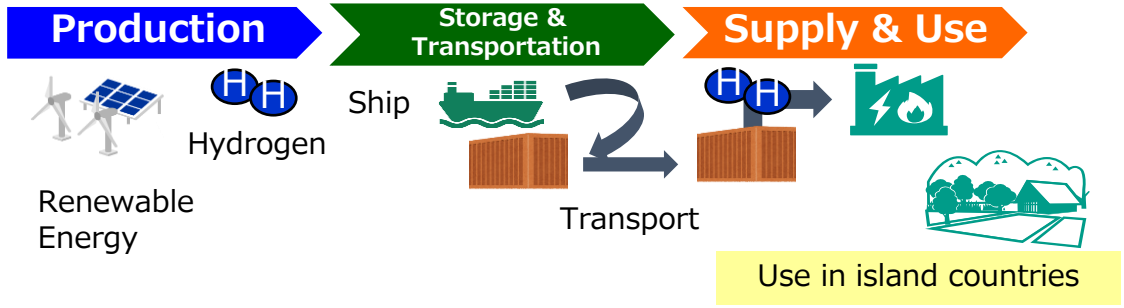
Finance part of an investment cost (**less than half**)

Conduct MRV and expected to deliver JCM credits issued

International consortiums
(which include Japanese entities)

Budget for projects starting from FY 2021 is about 8.8 billion JPY (approx. USD 88 million) * in total by FY2023

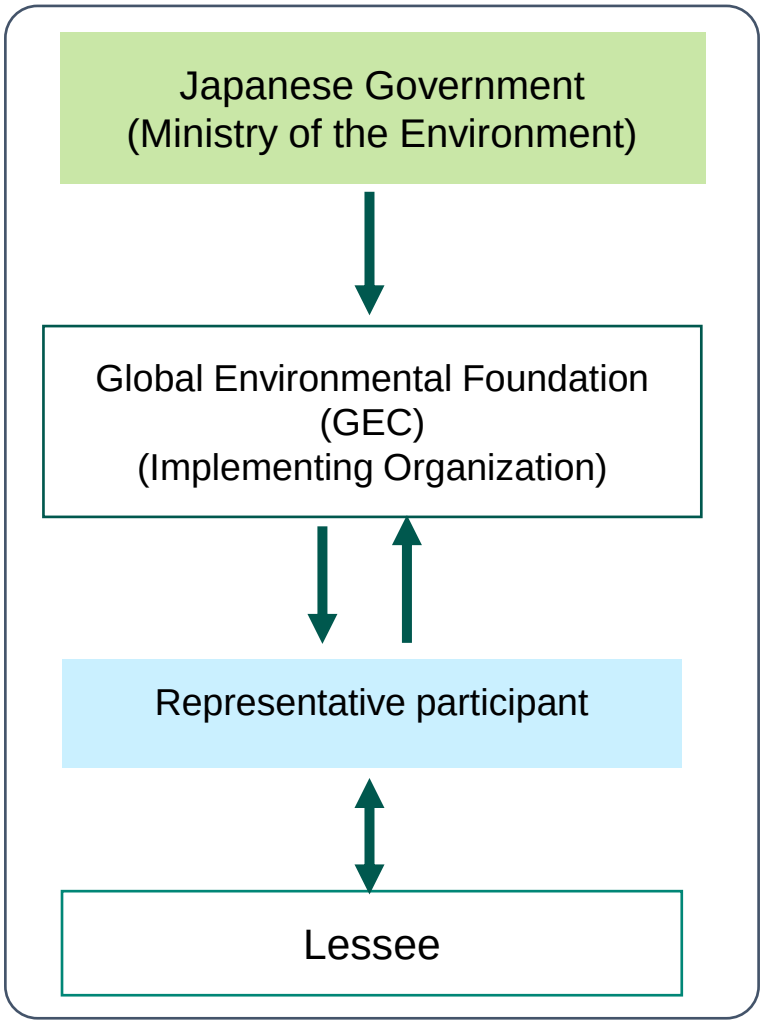
*including
- Financing Program to Demonstrate Decarbonization Technology for Realizing Co-Innovation
- Pilot project for comprehensive support throughout the whole hydrogen supply chain abroad



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

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【Budget for FY 2021】
60 million JPY (approx. 0.60 million USD) (1 USD = 100JPY)

Government of Japan

Finance part of the cost in flat-rate

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)

Budget for FY2021:

JPY 1 billion (approx. USD 10 million)

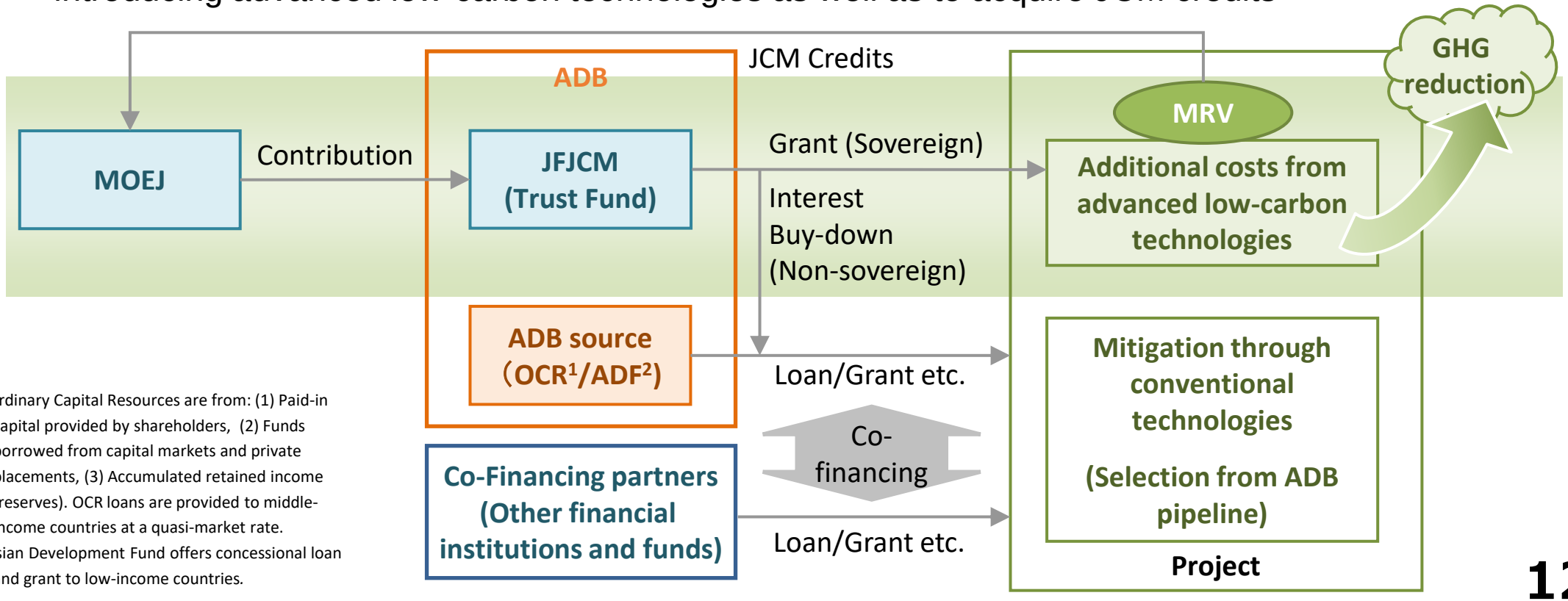
Scheme:

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

Maldives, POISED PJ

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



[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.

Thank you for your kind attention

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