



Ministry of the Environment

Recent Development of the Joint Crediting Mechanism (JCM)

March 9, 2021

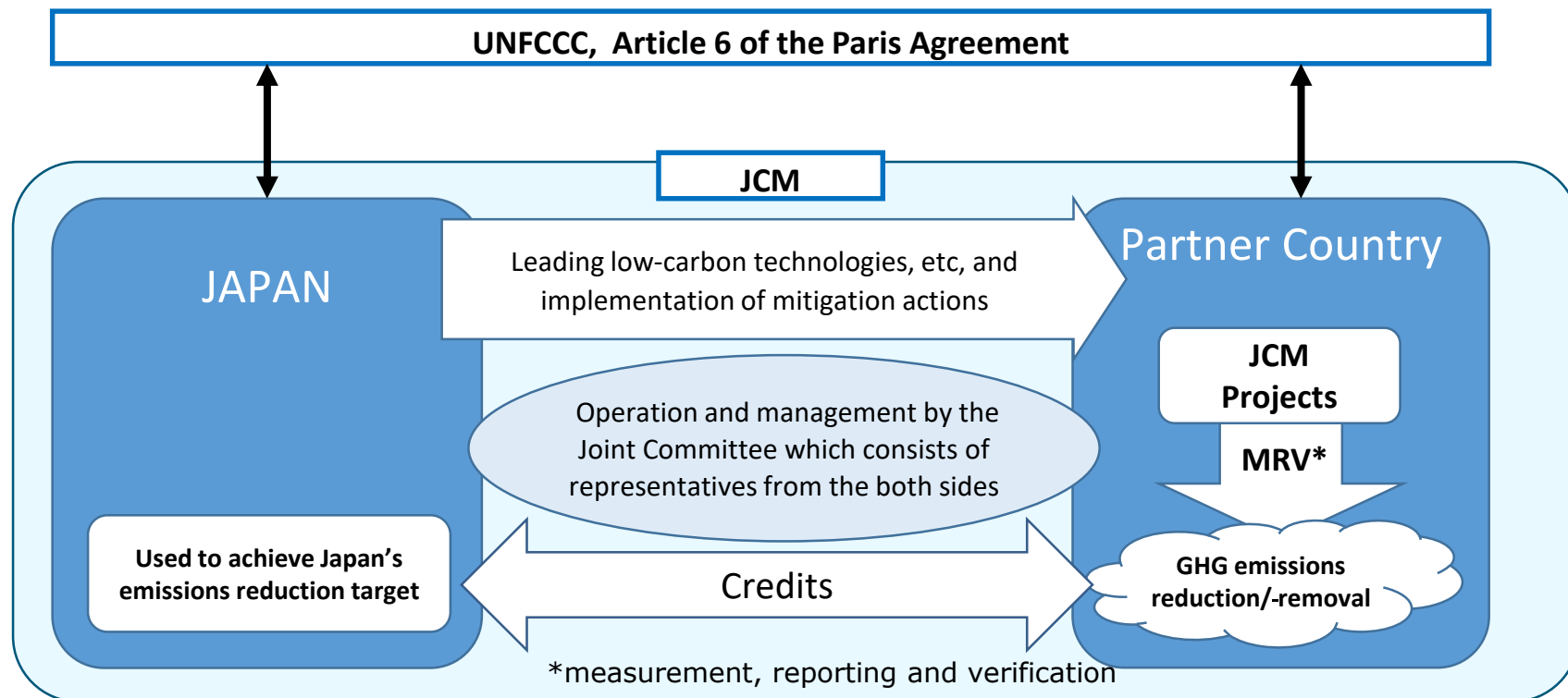
Ministry of the Environment ,Japan



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- 1. Overview of the JCM**
 2. Financial support scheme
 3. Recent Development of the JCM
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Basic Concept of the Joint Crediting Mechanism (JCM)

- Facilitating diffusion of leading low-carbon or decarbonizing technologies ,etc and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of partner countries.
- Appropriately evaluating contributions from Japan to GHG emission reductions or removals in a quantitative manner and use them to achieve Nationally Determined Contribution(NDC) of each country.
- Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals.



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%

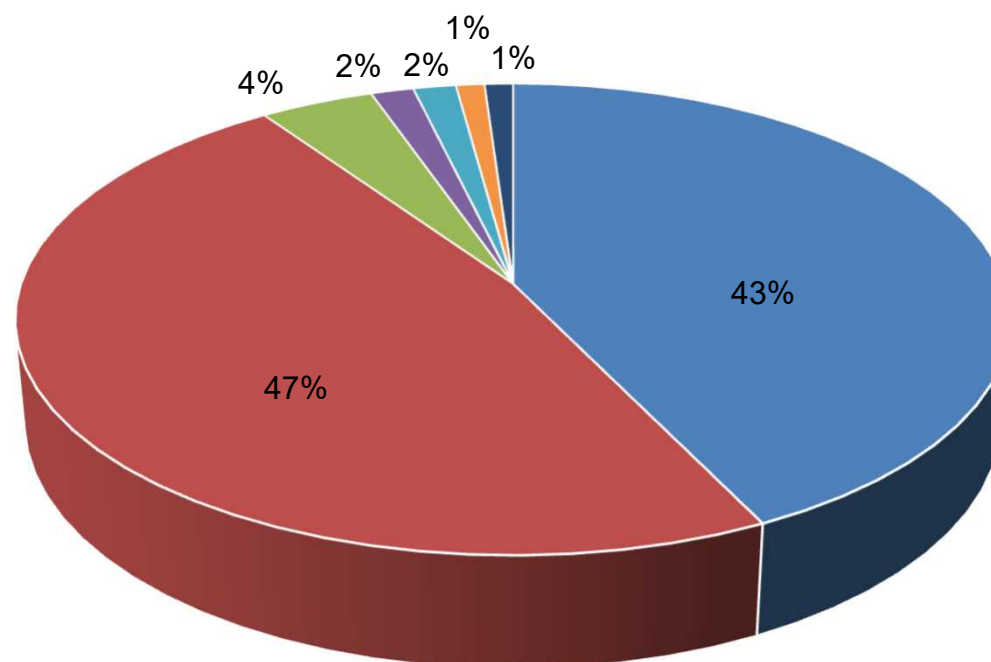
- Recovery & Destruction(2)

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)

Future target of JCM

Japan's strengths and issues in the fields of renewable energy and energy saving

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



MOEJ wants to support not only existing technologies, but also advanced technologies such as hydrogen and CCS etc. as described above.

JCM Partner Countries



Mongolia
Jan. 8, 2013
(Ulaanbaatar)



Bangladesh
Mar. 19, 2013
(Dhaka)



Ethiopia
May 27, 2013
(Addis Ababa)



Kenya
Jun. 12, 2013
(Nairobi)



Maldives
Jun. 29, 2013
(Okinawa)



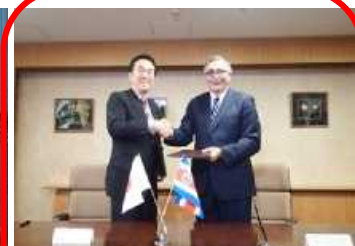
Viet Nam
Jul. 2, 2013
(Hanoi)



Lao PDR
Aug. 7, 2013
(Vientiane)



Indonesia
Aug. 26, 2013
(Jakarta)



Costa Rica
Dec. 9, 2013
(Tokyo)



Palau
Jan. 13, 2014
(Ngerulmud)



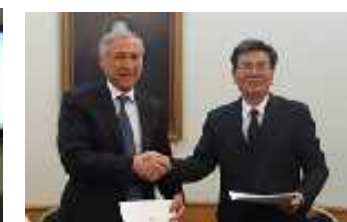
Cambodia
Apr. 11, 2014
(Phnom Penh)



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)



the Philippines
Jan. 12, 2017
(Manila)

JCM Model Projects in Costa Rica

2 Projects have been started operation

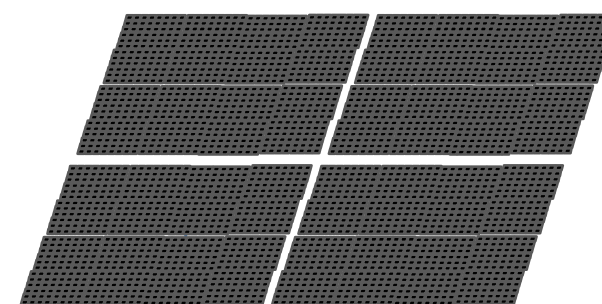
- Renewable energy project
- Energy efficiency project



JCM Model Project (2016)

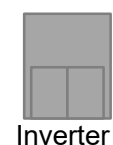
5MW Solar Power Project in Belen

- Project status : Project registered
- Methodology : Approved
- Credit Issuance : FY2022(if possible)



PV module
325w x
15,456 panels

DC



AC



MVR

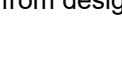
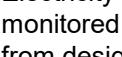


User(End point)
Coope guanacaste



Grid in
Coope
Guanacaste

Electricity generation
monitored
from designated site



JCM Model Project (2016)

Introduction of the High Efficiency Chiller and the Exhaust Heat Recovery System

- Project status : Validation(Scheduled to be registered in FY2021)
- Methodology : Approved
- Credit Issuance : Scheduled after project registered



WME Compressor



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FY2021 JCM Finance Scheme proposed by MOEJ

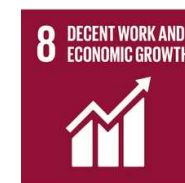
Government of Japan

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

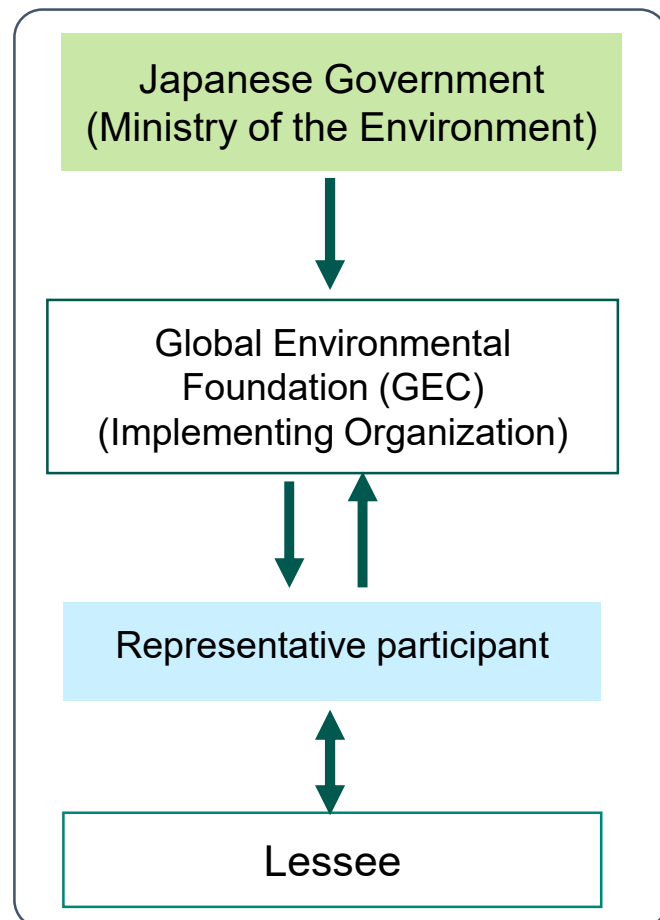


Self-supporting hydrogen energy supply system
(for Business Continuity Plan)

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



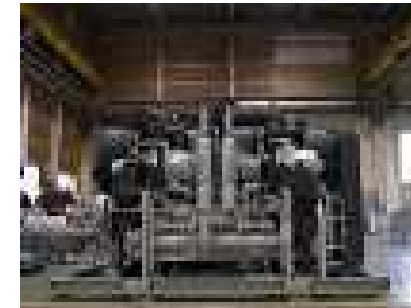
< Merit >

- 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 MOE

【Budget for FY 2021】

60million JPY (approx. 0.61 million USD) (1 USD = 100 JPY)

Finance part of the cost in flat-rate (up to 40 million JPY/year)

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)

Eligible Projects

- After the adoption of financing, start implementation of recovery/destruction within three years
- Aim for the registration as JCM project and issuance credits

Memorandum of Cooperation between World Bank Group and MOEJ

- Cooperate to identify suitable WBG programs where the MOEJ could potentially participate through appropriate identified means and jointly develop mitigation outcomes from the projects using the JCM methodology
- Explore the possibility to scale up the JCM projects under the PMR and PMR Successor Program
- In consultation with the relevant Bank counterparts in client countries and subject to the Bank's Access to Information Policy, the Bank will share information on identified candidate programs with the Ministry to explore and examine potential arrangements of the pilot projects with the JCM including utilization of Measurement, Reporting and Verification ("MRV") methodologies under the JCM and potential replication and scaling up of JCM projects under the programs.



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Recent Development: SDGs, Gender Guideline and CORSIA

JOINT CREDITING MECHANISM CONTRIBUTIONS TO SUSTAINABLE DEVELOPMENT GOALS

- The first publication to analyze the interlinkage between the JCM and SDGs. It aims to clarify how the JCM contributes to SDGs.
- Accelerate further contribution towards SDGs through the JCM project implementation.



Guideline on Gender Equality for the Joint Crediting Mechanism (JCM)

- MOEJ developed the “Guideline on Gender Equality for the Joint Crediting Mechanism (JCM)” with the aim of encouraging mainly representative participants and partner participants of the JCM Model Projects to take action toward gender equality.
- This guideline shows recommended actions to be taken at all the stages of the project cycle (planning, implementation, and monitoring) to realize gender equality.

Application for Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

- The JCM between Mongolia and Japan applied for the assessment of CORSIA eligible emission units.
- Applications is based on mutual understanding and submitted by Japan and each partner country.

Collaboration with International Organizations

- **World Bank:** Memorandum of Cooperation for scaling-up of the Joint Crediting Mechanism.
- **ADB:** Cooperation on Japan Fund for the JCM and Article 6 of PA and SDGs
- **UNIDO:** Signed Joint Declaration on Environmental Cooperation in order to support the JCM.

Contributions to “SDGs” through JCM Model Projects

JCM Model Projects are contributing to the SDGs including improving gender equality in partner countries.

Employment/Food/Energy Access

- ◆ Installation of 12.7 MW Solar Power Plant for Power Supply In Ulaanbaatar Suburb
- ◆ Reduction of air pollution and stable power supply
- ◆ Improving farm management by utilizing solar power sales income



Health/Energy Access

- ◆ Introduction of Waste to Energy Plant in Yangon City
- ◆ Since there is no need for landfill disposal, methane emissions are reduced and contribute to improving air pollution
- ◆ High-efficiency stalker incinerator recovers exhaust gas to maximize heat recovery rate



Education/Clean water

- ◆ Introduction of High Efficiency Water Pumps in Da Nang City
- ◆ By providing technical training on pump operation and maintenance, we have achieved stable operation of the water purification plant equipment and achieved high quality water supply.

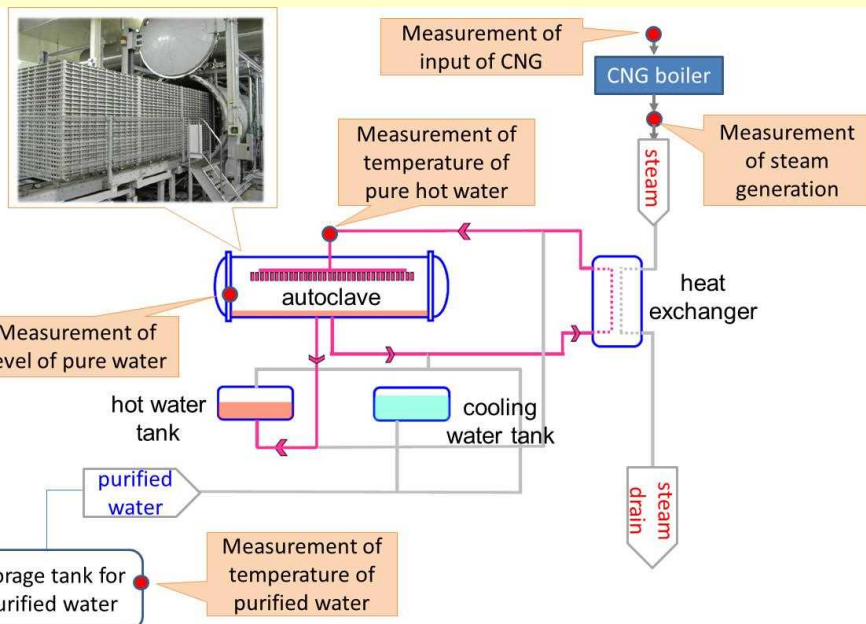


Addressing to COVID-19 through JCM Model Projects

- 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.



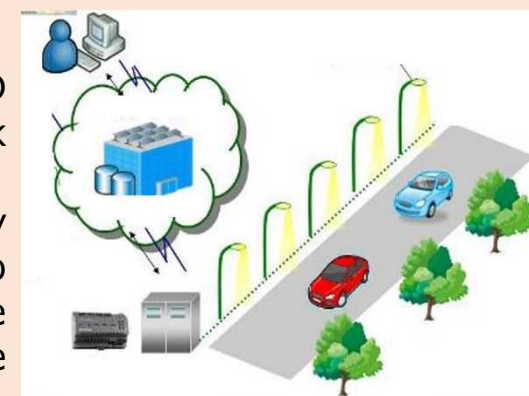
Contribution to the medical supply chain

- ◆ 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.



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 continues to promote the JCM as a pillar of decarbonizing policy while deepening cooperation with partner countries.

