

Recent Developments of the Joint Crediting Mechanism (JCM)

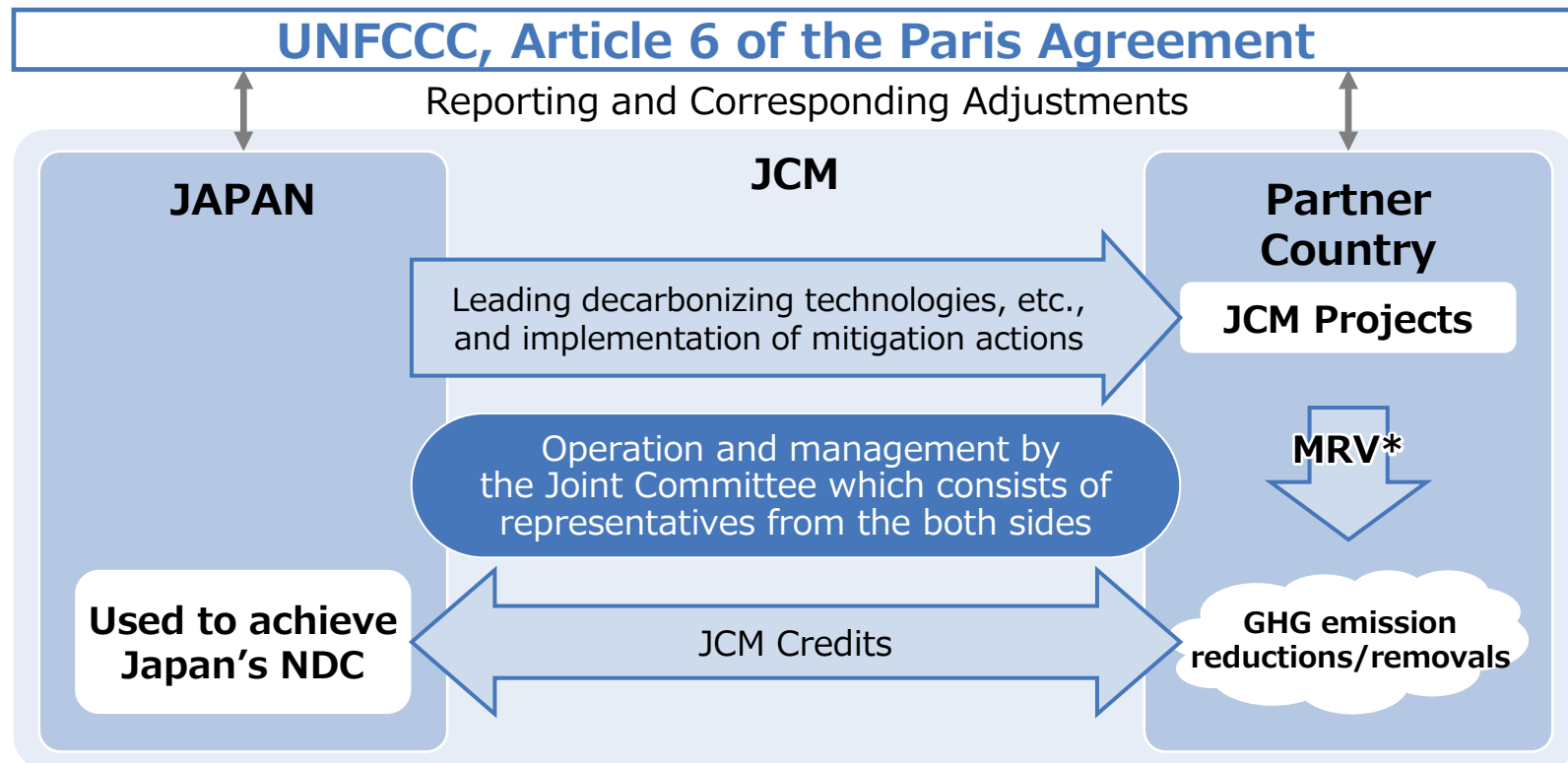
January 19, 2024

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Basic Concept of the JCM

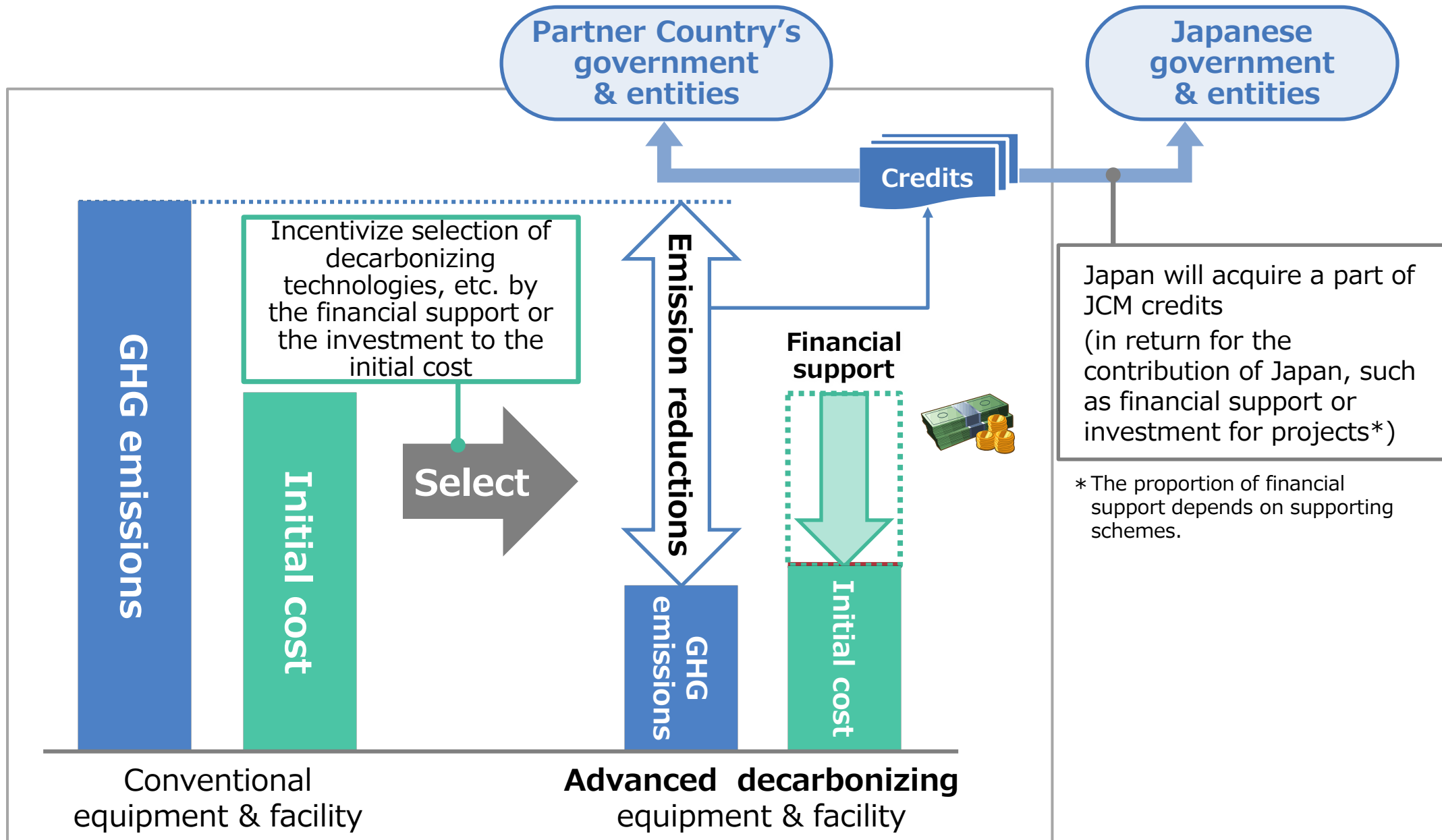
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- Facilitate diffusion of leading decarbonizing technologies and infrastructure, etc., through investment by Japanese entities, thereby contributing to GHG emission reductions or removals and sustainable development in partner countries.
- Contribute to the achievement of both countries' NDCs while ensuring the avoidance of double counting through corresponding adjustments.
- Implement the JCM consistent with the guidance on cooperative approaches, referred to in Article 6, paragraph 2 of the Paris Agreement.



*measurement, reporting and verification

Contribution from Japan (example)



JCM Partner Countries (28 countries)



Mongolia

Jan. 8, 201 (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)



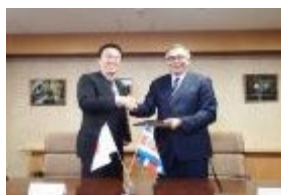
Lao PDR

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)



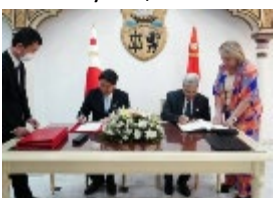
Philippines

Jan. 12, 2017 (Manila)



Senegal

Aug. 25, 2022 (Dakar)



Tunisia

Aug. 26, 2022 (Tunis)



Azerbaijan

Sept. 5, 2022 (Baku)



Moldova

Sept. 6, 2022 (Chisinau)



Georgia

Sept. 13, 2022 (Tbilisi)



Sri Lanka

Oct. 10, 2022 (Colombo)



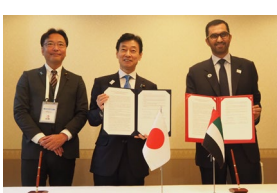
Uzbekistan

Oct. 25, 2022 (Tashkent)



Papua New Guinea

Nov. 18, 2022 (Sharm-el-Sheikh)



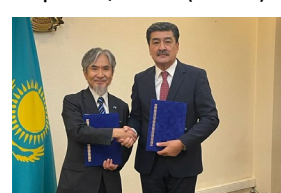
United Arab Emirates

Apr. 16, 2023 (Sapporo)



Kyrgyz Republic

July. 6, 2023 (Bishkek)



Kazakhstan

October. 30, 2023 (Astana)

Projects supported by the JCM financing programmes

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Renewable Energy



Solar power, FARMLAND Co., Ltd., Chile



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



Hydro Power Plant, Toyo Energy Farm Co., Ltd., Indonesia



Biomass Co-Generation System, Fuji-Foods Corporation, Thailand



Binary Power Generation Project at Geothermal Power Plant, MHI, Ltd., Philippines

Energy efficiency [Consumer sector]



High-efficiency refrigerator, Mayekawa MFG, Indonesia



Energy saving at convenience stores, Panasonic, Indonesia



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

Energy efficiency [Industrial sector]



Optimization in petroleum refining plant, Yokogawa Electric Corp. Indonesia

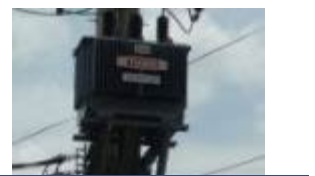


Energy-saving of mobile communications base transceiver stations, KDDI Corp. Indonesia

Energy efficiency [Urban sector]



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



Amorphous transformers in power distribution, Hitachi Materials, Vietnam

Waste



Power Generation with Methane Gas Recovery System, NTTDATA, Mexico



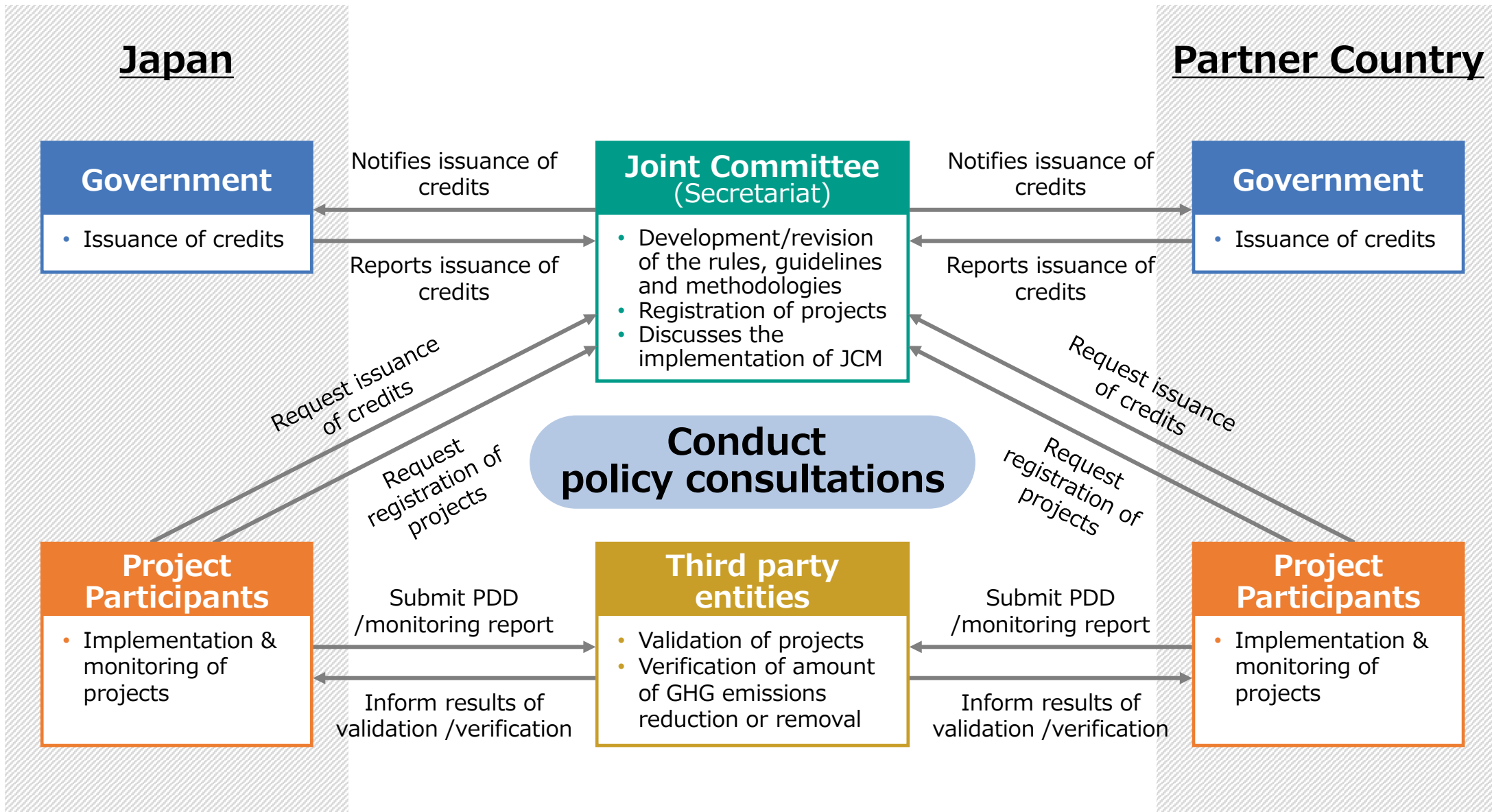
Waste to Energy Plant, JFE engineering, Myanmar

Transport



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

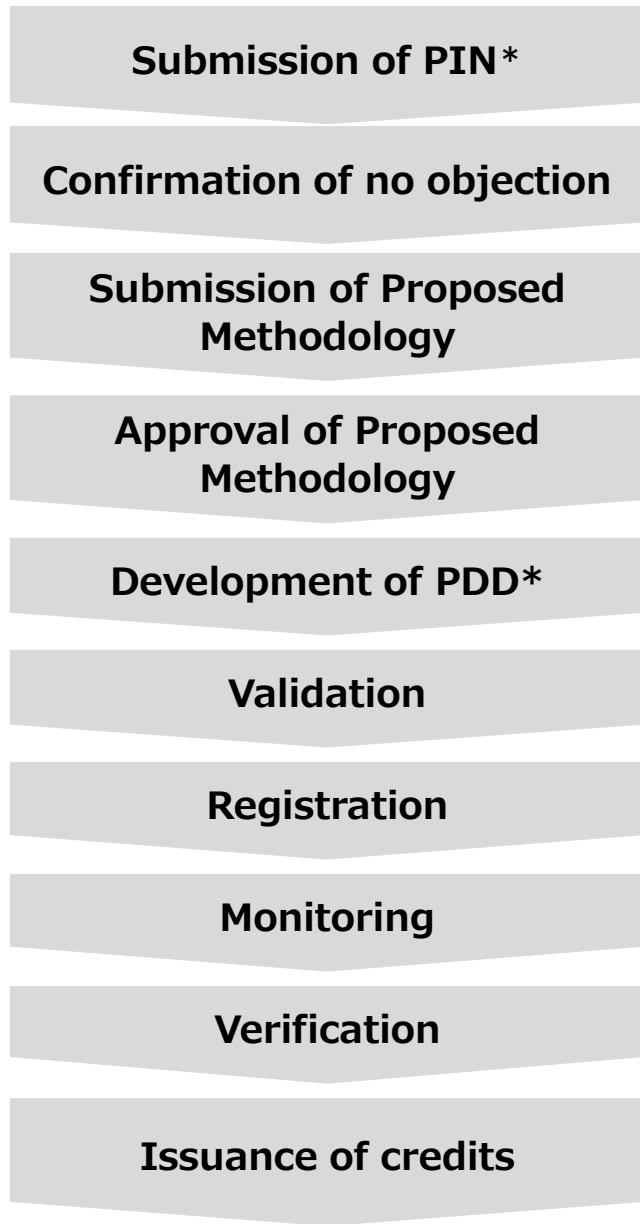
Scheme of the JCM



1. The Joint Committee (JC) consists of representatives from both Governments.
2. The JC develops rules and guidelines necessary for the implementation of the JCM.
3. The JC confirms no objection or objection to a project idea note (PIN).
* Under consultation with partner countries. Please refer to the next page.
4. The JC determines either to approve or reject the proposed methodologies, as well as develops JCM methodologies.
5. The JC designates the third-party entities (TPEs).
6. The JC decides on whether to register JCM projects and the percentage of JCM credit allocation.
7. Each Government establishes and maintains a registry.
8. Each Government issues the notified amount of JCM credits to its registry on the basis of notification for issuance of JCM credits by the JC.

Project Cycle of the JCM

Can be conducted by the same TPE
Can be conducted simultaneously



<Terminology>

- **PIN (Project Idea Note):** A document used to explain the outline of the project to the partner country and confirm whether there is an objection.
- **PDD (Project Design Document):** A document that includes monitoring methods and estimated emission reductions. Required for project registration.

<Note>

For the latest information on JCM rules and guidelines, including the PIN procedures adopted with each Partner Country, please refer to each partner country page on the JCM website.

METI's support for the JCM partner countries

- METI supports the introduction of **advanced decarbonizing technologies through Demonstration Projects** which contribute to the decarbonization of the JCM partner countries.
- The project cost burdened by Japanese side is **100% supported by Japanese government (METI/NEDO).**

Examples of past projects



Optimization in petroleum refining plant, Yokogawa Electric Corp. Indonesia



Energy-saving of mobile communications base transceiver stations, KDDI Corp. Indonesia

Total: 11 projects in 6 countries (As of July 2023)

JCM Feasibility Study by METI



Scope:

- Consider basic elements of the demonstration (technology, project site, stakeholders, etc.)
- Establish the basis of JCM methodology for quantification of the GHG emission reduction
- Study the possibility of dissemination of the introduced technology
- Project cost: 15 million JPY (approx. 116 thousand USD) per study

Project period: Up to 1 year

Assumed technical areas: Energy efficiency with IoT, EMS, Renewable energy, CCS/CCUS, Hydrogen/Ammonia, etc.

JCM Demonstration Program by NEDO (*)

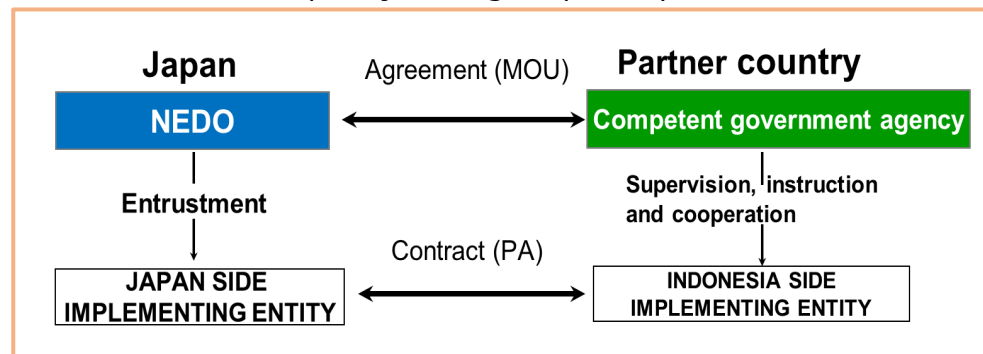


Scope:

Demonstrate and verify the effectiveness of advanced decarbonizing technology:

- Introduction of relevant facilities and systems, and conduct demonstration
- Quantification of GHG emission reduction effectiveness
- JCM procedure toward issuance of JCM credits
- Budget for FY 2023: 1.1 billion JPY (approx. 8.5million USD)

Project period: Pre-demonstration stage: up to 1 year
 Demonstration stage: up to 3 year
 Follow-Up Project stage: up to 2 year



* NEDO = New Energy and Industrial Technology Development Organization

Feasibility Studies by METI (as of November 2023)

Moldova:

- Bio-gasification using ethanol distillation residues in the Republic of Moldova (SDG Impact Japan Inc.)

Uzbekistan:

- Introduction of solar power generation and storage batteries, and boiler fuel conversion in public hospitals in Uzbekistan (Hanwa Co., Ltd.)

United Arab Emirates:

- Introduction electric, hydrogen, and other low-carbon vehicles for public transportation mobility and an operation monitoring and efficiency system (SMOC) (Zenmov Inc)

Thailand:

- Utilization of highly efficient dyeing technology in textile dyeing process (Asahi Kasei Corp.)
- Biomass boiler introduction using private financing (Tepia Corporation Japan)
- ★FC Truck Manufacturing and Operation Technology for Transport in Thailand (TOYOTA TSUSHO CORPORATION)

Indonesia:

- Improvement of biodiesel yield from palm oil by utilizing AI (Kanematsu Corporation)
- Investigation of Water Storage Peatland Management Technology for Stable Supply of Woody Biomass (Sumitomo Forestry Co., Ltd.)
- ★Technology Demonstration Project on Tundish Plasma Heater for GHG Emission Reduction in Electric Furnace Steel Mills (NIPPON STEEL ENGINEERING CO., LTD.)

Mongolia:

- Switching fuel for heating boilers to biochar in Ulaanbaatar (PEAR Carbon Offset Initiative, Ltd.)

Lao PDR:

- Decarbonization of steam by systemization of hydrogen generators and hydrogen boilers in Lao PDR (Hitachi Zosen Corporation)

Vietnam:

- Integrated energy management and data platform in industrial parks (Sojitz Corporation)
- Fuel Conversion in Vietnam (eREX Co.,Ltd.)
- ★Introduction of wastewater heat recovery technology and geothermal heat utilization technology using heat exchanger G-HEX (ASANO TAISEIKISO ENGINEERING Co.,Ltd)

Brazil:

- Conversion of production process of caustic soda and chlorine in Federative Republic of Brazil (AGC Inc.)

Chile:

- Chemical goods/synthetic fuel production using CO2 emitted from pulp mill as a raw material (Toyo Engineering Corporation)

Philippines:

- Distributed Combined Renewable Energy Installation in a Poultry Farm Regional Cooperative (J-POWER)

Total as of 2023: **17 projects** (11 countries)

Projects with "●" are Feasibility Studies by METI

Projects with "●★" are Pre-Demonstration Projects by NEDO

Demonstration Projects by METI* (as of November 2023)

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* Including NEDO and UNIDO

Mongolia:

- **★High efficiency and low loss power transmission and distribution system (Hitachi)** ※Aug 2013 – Feb 2019

Kenya:

- **Rural Electrification Project for Communities by Micro Hydro Power in Kenya**
(NTT Data Institute of Management consulting, Inc.)
※FY2012 – Feb 2019
※implemented by UNIDO

Thailand:

- **IoT utilization promotion project to streamline and advance power generation assets for electric power companies in ASEAN countries (Marubeni)**
※Feb 2019 – Feb 2023
- **Low-carbon Operation for Power Grid utilizing Optimized Performance Enabling Network for Volt/Var(Q) (OPENVQ)**
※Nov 2019 –

Vietnam:

- **★Energy saving by inverter air conditioner optimum operation at National Hospital (Mitsubishi Electric)** ※Jan 2014 - Jun 2017
- **★Energy saving by BEMS optimum operation at Hotel (Hibiya Engineering)**
※Jan 2014 – Feb 2018
- **★Energy Saving and Work Efficiency Improvement Project by special LED Equipment with new technology, COB(Stanley Electric)**
※ Sep 2016 – Feb 2018

Lao PDR:

- **★Lao PDR Energy efficient data center(LEED) (Toyota Tsusho Corporation, Internet Initiative Japan)**
※Jan 2016 - Oct 2018

Indonesia:

- **Operation Optimization in Utility Facility (Azbil)**
※Feb 2014 – Dec 2018
- **Energy Saving by Optimum Operation at Oil Refinery (Yokogawa)**
※Nov 2013 – Feb 2019
- **The low carbonization of mobile communication's BTS (Base Transceiver Station) by the Introduction of "TRIBRID system" (KDDI)**
※Apr 2017 – Feb 2019

Total: **11 projects** (6 countries)

- Underlined projects, one in Mongolia, three in Vietnam, one in Lao PDR, three in Indonesia, one in Kenya were registered as JCM projects.
- Projects with "★" are those which JCM credits have been issued.

Private-Sector JCM projects

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- There is a need to promote the formation of JCM projects invested and implemented by private companies for the purpose of obtaining JCM credits (private sector JCM), in light of the growing interest in the use of JCM credits for private-sector companies' own purposes.
- Formulated "Guidance on the development of Private-Sector JCM" in March 2023
- In the guidance, the following two processes were introduced:
 - Making an advance inquiry to the partner countries on the "Project Idea Note (PIN)" which includes the project contents and credit allocation plan
 - Confirming whether there are any objections on the PIN at the Joint Committee prior to the implementation of a JCM project.

