Recent Development of
The Joint Crediting Mechanism (JCM)

February 2016
Government of Japan

All ideas are subject to further consideration and discussion with partner countries
Facilitating diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.

Appropriately evaluating contributions from Japan to GHG emission reductions or removals in a quantitative manner and use them to achieve Japan’s emission reduction target.

Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals.
Scheme of the JCM

**Japan**

- **Government**
  - Issuance of credits
  - Reports issuance of credits

- **Project Participants**
  - Implementation & monitoring of projects
  - Request issuance of credits

- **Third party entities**
  - Submit PDD/monitoring report
  - Inform results of validation/verification
  - Validation of projects
  - Verification of amount of GHG emission reductions or removals

**Partner Country**

- **Government**
  - Issuance of credits

- **Joint Committee (Secretariat)**
  - Development/revision of the rules, guidelines and methodologies
  - Registration of projects
  - Discusses the implementation of JCM

- **Project Participants**
  - Implementation & monitoring of projects
  - Request registration of projects

- **Third party entities**
  - Submit PDD/monitoring report
  - Inform results of validation/verification
  - Request registration of projects

**Conduct policy consultations**
The Joint Committee (JC) consists of representatives from both Governments.

The JC develops rules and guidelines necessary for the implementation of the JCM.

The JC determines either to approve or reject the proposed methodologies, as well as develops JCM methodologies.

The JC designates the third-party entities (TPEs).

The JC decides on whether to register JCM projects which have been validated by the TPEs.

Each Government establishes and maintains a registry.

On the basis of notification for issuance of credits by the JC, each Government issues the notified amount of credits to its registry.
(1) The JCM starts its operation as a non-tradable credit type mechanism.

(2) Both Governments continue consultation for the transition to a tradable credit type mechanism and reach a conclusion at the earliest possible timing, taking account of implementation of the JCM.

(3) The JCM aims for concrete contributions to assisting adaptation efforts of developing countries after the JCM is converted to the tradable credit type mechanism.

(4) The JCM covers the period until a possible coming into effect of a new international framework under the UNFCCC.
Project Cycle of the JCM and the CDM

**JCM**
- Submission of Proposed Methodology

**CDM**
- Project Participant

<Main actors at each process>

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<th>JCM</th>
<th>CDM</th>
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<td>Project Participant / Each Government</td>
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<td>Third Party Entities</td>
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Joint Committee decides the amount
Each Government issues the credit

Can be conducted by the same TPE
Can be conducted simultaneously
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 and Thailand.

In addition, the Philippines and Japan signed an aide memoire with intent to establish the JCM.
The second component of Japan’s new set of contribution is innovation. The key to acting against climate change without sacrificing economic growth is the development of innovative technologies. To illustrate, there are technologies to produce, store and transport hydrogen towards realizing CO2–free societies, and a next-generation battery to enable an electric car to run 5 times longer than the current level. By next spring Japan will formulate the “Energy and Environment Innovation Strategy.” Prospective focused areas will be identified and research and development on them will be strengthened. (snip)

In addition, many of the advanced low-carbon technologies do not generally promise investment-return to developing countries. Japan will, while lowering burdens of those countries, promote diffusion of advanced low carbon technologies particularly through implementation of the JCM.
<table>
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<th>Japan’s INDC</th>
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<tr>
<td>○ Japan’s INDC towards post-2020 GHG emission reductions is at the level of a reduction of 26.0% by fiscal year (FY) 2030 compared to FY 2013 (25.4% reduction compared to FY 2005) (approximately 1.042 billion t-CO$_2$eq. as 2030 emissions), ensuring consistency with its energy mix, set as a feasible reduction target by bottom-up calculation with concrete policies, measures and individual technologies taking into adequate consideration, <em>inter alia</em>, technological and cost constraints, and set based on the amount of domestic emission reductions and removals assumed to be obtained.</td>
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<tr>
<th>Information to facilitate clarity, transparency and understanding</th>
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<tr>
<td>○ The JCM is not included as a basis of the bottom-up calculation of Japan’s emission reduction target, but the amount of emission reductions and removals acquired by Japan under the JCM will be appropriately counted as Japan’s reduction.</td>
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<tr>
<td>GHG emissions and removals</td>
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<td>JCM and other international contributions</td>
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<tr>
<td>○ Japan establishes and implements the JCM in order both to appropriately evaluate contributions from Japan to GHG emission reductions or removals in a quantitative manner achieved through the diffusion of low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions in developing countries, and to use them to achieve Japan’s emission reduction target.</td>
</tr>
<tr>
<td>○ Apart from contributions achieved through private-sector based projects, accumulated emission reductions or removals by FY 2030 through governmental JCM programs to be undertaken within the government’s annual budget are estimated to be ranging from 50 to 100 million t-CO$_2$.</td>
</tr>
</tbody>
</table>
The JCM related Articles in the Paris Agreement

2. Parties shall, where engaging on a voluntary basis in cooperative approaches that involve the use of internationally transferred mitigation outcomes towards nationally determined contributions, promote sustainable development and ensure environmental integrity and transparency, including in governance, and shall apply robust accounting to ensure, inter alia, the avoidance of double counting, consistent with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement.

3. The use of internationally transferred mitigation outcomes to achieve nationally determined contributions under this Agreement shall be voluntary and authorized by participating Parties.

- Use of market mechanisms, including the JCM, is articulated under Article 6 which prescribes for the use of emission reductions realized oversees towards national emission reduction targets.
- The amount of emission reductions and removals acquired by Japan under the JCM will be appropriately counted as Japan’s reduction in accordance with the Paris Agreement.
- Japan is going to contribute to the development of the guidance for robust accounting including for avoidance of double counting to be adopted by the CMA*.

*the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
41. **Acknowledges** that **Parties, individually or jointly, may develop and implement various approaches, including opportunities for using markets** and non-markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries;

42. **Re-emphasizes** that, as set out in decision 2/CP.17, paragraph 79, all such approaches must meet standards that deliver real, permanent, additional and verified mitigation outcomes, avoid double counting of effort and achieve a net decrease and/or avoidance of GHG emissions;

44. **Requests** the SBSTA to **conduct a work programme** to elaborate a framework for such approaches, drawing on the work of the AWG-LCA on this matter, including the relevant workshop reports and technical paper, and experience of existing mechanisms, with a view to recommending a draft decision to the COP for adoption at its 19th session;

45. **Considers** that any such framework will be developed under the authority and guidance of the Conference of the Parties;
The JCM is one of various approaches based on Decision 1/CP.18, jointly developed and implemented by Japan and partner countries, and Japan intends to contribute to elaborating the framework for such approaches under the UNFCCC.

Japan has reported and will report to the COP the use of the JCM in Biennial Reports including the Common Tabular in line with Decision 19/CP18.
A registry will be established by each side (RoI (draft) para13 (b)). The registries need to share “Common specifications”, e.g.,
- functions (e.g. issuance, retirement, holding, cancelation of credits)
- account type (e.g. holding account, government holding account, cancellation account, and retirement account)
- rules of serial number of the credit
- information sharing
Japan has established its registry and started operation in Nov. 2015. The partner countries will also establish their own registry.

Account holders can access both general information and their own accounts while general users can only access general information.
Contents

• General information page
• Individual JCM Partner countries-Japan page

Function

• Information sharing to the public, e.g.,
  - the JC decisions,
  - rules and guidelines,
  - methodologies,
  - projects,
  - call for public inputs/comments,
  - status of TPEs, etc.
• Internal information sharing for the JC members, e.g.,
  - File sharing for electric decisions by the JC

JCM Website

URL: https://www.jcm.go.jp/

Image of the general information page

Image of the individual JCM Partner countries-Japan page
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<td>ID001</td>
<td>Indonesia</td>
<td>Energy Saving for Air-Conditioning and Process Cooling by Introducing High-effic...</td>
<td>Improving energy saving for air-conditioning and process cooling by introducing high-efficiency centrifugal chiller equipped with high-performance economizer cycle, and supercooling refrigerant cycle in a textile factory.</td>
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<td>Introducing advanced energy efficient cooling system using natural refrigerant in the food industry cold storage.</td>
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<td>Introducing advanced energy efficient cooling system using natural refrigerant in the frozen food processing plant.</td>
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<td>Installing high quality solar cell modules with high conversion efficiency with a monitoring system which realizes appropriate operation and management.</td>
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<td>Introducing high-efficiency HOBs to fulfill the demand of new heat facilities for the school buildings. Optimizing boiler operation through the implementation of operation management and technical guidance.</td>
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<td>Centralization of Heat Supply System by Installation of High-Efficiency Heat Only Boilers in Bornuur soum Project</td>
<td>Introducing high-efficiency HOBs to fulfill the demand for heat supply system in the public buildings. Optimizing boiler operation through the implementation of operation management and technical guidance.</td>
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<td>VN001</td>
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<td>Eco-Driving by Utilizing Digital Tachograph System</td>
<td>Improving transportation fuel efficiency by installing digital tachographs, in which the quantity of fuel consumption and running distance are continuously analyzed and provide feedbacks and advices to the drivers based on the analyzed data.</td>
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<td>VN002</td>
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<td>AM008</td>
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<td>Energy demand</td>
<td>Installation of a separate type fridge-freezer showcase by using natural refrigerant for grocery store to reduce air conditioning load inside the store</td>
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<td>Displacement of Grid and Captive Genset Electricity by a Small-scale Solar PV System</td>
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Programs by Government of Japan

- JCM Demonstration Projects and JCM Financing Programs
- Feasibility Studies
- Capacity Building
JCM Demonstration Projects (Draft Budget for FY2016: 2.4 billion yen)

- JCM Demonstration Projects are implemented by NEDO (New Energy and Industrial Technology Development Organization), which supports the project costs necessary to verify the amount of GHG emission reduction in line with JCM rules and guidelines.
- Coverage of project cost: Cost of the JCM Demonstration Projects necessary for MRV e.g. Cost of design, machines, materials, labor, travel, etc.
- Eligibility for the JCM Demonstration Projects:
  - Concrete Projects to demonstrate the effectiveness of leading Japanese technologies and/or products installed and operated in the projects, and the amount of their GHG emission reduction with MRV methodology by actual operation
  - Project Participants consist of entities from both countries, only the Japanese entities can apply for the JCM Demonstration projects. The projects shall be completed within 3 years.

JCM Feasibility Study (FS)

- The study to promote potential JCM projects and to survey their feasibility as well as to check the practicality of the MRV methodology.

MRV Application Study

- By applying MRV methodology to the facility with low-carbon technologies that have already been installed or will certainly be installed in any JCM signatory country; 1) to obtain verification by third party entity under the JCM; and 2) to conduct review and feedback on efficiency and applicability of MRV.

Capacity Building Programmes

- Variety of capacity building activities to increase technical experts e.g.,) Experts on measuring amount of emission reductions by introducing low carbon technologies and products in the host country.
For the purpose of preventing deforestation and forest degradation, which have caused significant emissions of CO2 in many developing countries, plus additional measures (collectively known as REDD+), this FS intends to examine the feasibility of concrete cooperation in cases where Japanese enterprises are undertaking work in related business fields, applicable methods of measuring the amount of greenhouse gas emissions reduced and ideal approaches to making other environmental improvements, while also investigating the potential contributions of Japanese enterprises in the field of REDD+.

Projects on REDD+ in developing countries. The details are as follows:
1. To grasp overall conditions of the trends and policies for climate change in the countries and regions that are targets of this project (especially REDD+)
2. To consider the possibility of specified cooperation for the project to be implemented after 2016, and the way of financial and other environmental arrangements necessary for realizing the implementation of the project.
3. To examine the applicable method for reducing GHG emissions and to calculate the expected amount of the reduction using that method when the project is implemented.
4. To examine the economic and other impacts that will be gained from the project.

Partner Country: Vietnam
Operator: Kanematsu, Japan
NUS Description:
Thuy Son, a wood material manufacturer in Ca Mau, Vietnam, is planning expansion of its production area in natural forest including peatland. This project suggests protecting the natural forest and its biodiversity by limiting the expansion. This may be achieved by improving production efficiency and introducing higher value products. Moreover, pellet normally has higher value in the market and by adding pellet production and export to the current business, Thuy Son will provide job opportunity for the local community. This eventually reduces the risk of cultivation of peatland.
JCM Feasibility Studies, MRV Applicability and Verification Studies by METI & NEDO in FY2013

Mexico:
- CCS (Carbon dioxide Capture and Storage)

Myanmar:
- Run-of-river Micro Hydro Power Generation

Vietnam:
- Highly Efficient Coal Power Plants (Ultra Super Critical)
- Water purification/sludge reduction
  - Energy recovery using organic waste
  - Wind-Power generation

Indonesia:
- Biomass Power Generation
- Energy saving stores based on CO2 refrigerant
- REDD+ (4 projects)

Lao PDR:
- Energy saving at beer plant
- REDD+

Bangladesh:
- CCGT power generation

Kenya, Ethiopia:
- Micro Hydro power plant

Djibouti, Rwanda:
- Geothermal Power Generation

Thailand:
- Energy saving at Industrial Estate
  - Air Conditioners using CO2 refrigerant

Kenya:
- Dissemination of Solar lantern

India:
- Energy Efficient Air Conditioners (HFC 32)
- Energy Efficient Technologies for Integrated Steel Works

Mongolia:
- Wind-Power generation
  - Energy efficient housing complex at Ger area

Mongolia:
- Wind-Power generation

Peru:
- REDD+

India:
- Energy Efficient Air Conditioners (HFC 32)
- Energy Efficient Technologies for Integrated Steel Works

Kenya, Ethiopia:
- Micro Hydro power plant

Lao PDR:
- Energy saving at beer plant
- REDD+

Bangladesh:
- CCGT power generation

Kenya:
- Dissemination of Solar lantern

India:
- Energy Efficient Air Conditioners (HFC 32)
- Energy Efficient Technologies for Integrated Steel Works

Kenya, Ethiopia:
- Micro Hydro power plant
Kenya:
- Geothermal power generation

Lao PDR:
- Energy efficiency container data center

Indonesia:
- Energy efficiency for mobile communication system
- Low carbon waste treatment
- LNG supply chain development and energy conversion
- REDD+ (6 projects)

Vietnam:
- Energy saving at material factory
- Energy efficiency at data center
- CCS

Saudi Arabia:
- Solar power generation and gas-fired combined power generation

Mexico:
- Energy efficiency technology in commerce and industrial sector
- Geothermal power plant for IPPs
- Ion exchange membrane in caustic soda and chlorine production
- Energy efficiency beverage and food factory

Thailand:
- Energy efficiency technologies for steel industry
- Bio-coke
- High efficiency small boiler

Malaysia:
- Woody biomass power generation

Ethiopia:
- Bioethanol from molasses

Cambodia:
- Energy efficiency LED street light
- Hybrid(solar+diesel) power generation in SEZ(Special Economic Zone)

Bangladesh:
- CCGT power generation (since FY2013)

Myanmar:
- Energy saving at supermarket

Lao PDR:
- Energy efficiency container data center

Vietnam:
- Energy efficiency technologies for steel industry
- Low carbon technology application for eco-city
- Energy efficiency operation for ships
  - Installing LED lighting into Fishing vessel
  - Energy efficient paper making process
  - Waste Transport Management System in Vietnam
  - Air Conditioner Energy Efficiency through Water Source Heat Pump Units

Maldives:
- Ecological convenience store

Costa Rica:
- Mega Solar power generation

Chile:
- Energy efficiency power generation
- Rooftop solar power generation

Ethiopia, Kenya:
- Mega-solar power generation and Hydro power generation
- Rural electrification without power grid

Mongolia:
- FA utilization for Cement manufacture process

Pakistan:
- CCGT power generation (since FY2013)

Ceylon:
- Energy efficiency technologies for steel industry
- Bio-coke
- High efficiency small boiler

JCM Feasibility Studies, MRV Applicability and Verification Studies by METI & NEDO in FY2014

METI’s FSs for Policy Recommendation

NEDO’s FSs for Project Exploration/Development

NEDO’s MRV Applicability Verification Studies
Indonesia:
- Reduction of Global Warming Gases through torrefaction systems in which Indonesian biomass is used
- Investigation for developing energy saving and heat recovering waste treatment system

Vietnam:
- Improvement of energy saving in plants through the introduction of energy management systems (EMSs)
- Water utilization technology to improve efficiency of air-conditioning system
- Ecological convenience store (since FY2014)

Mexico:
- CCS-EOR projects in southern Mexico
- CCS into onshore oil field

Thailand:
- Introduction of energy-saving technology into plants that manufacture thin steel sheets
- Energy Conservation Distillation System
- High-efficiency thermal power generation

Saudi Arabia:
- Introduction of energy-saving equipment into the seawater desalination project
- CCSUS

Bangladesh:
- CCGT power generation (since FY2013)

Iran:
- Promoting Low-carbon technologies and products through JCM

India:
- Mass dissemination of high-efficiency solar pump systems for irrigation in the field of agriculture
- Introduction of energy-saving technology into India’s steel industry
- Smart City in Navi Mumbai

Maldives:
- Medium-size wind power generation

Vietnam:
- Improvement of energy saving in plants through the introduction of energy management systems (EMSs)
- Water utilization technology to improve efficiency of air-conditioning system
- Ecological convenience store (since FY2014)

Chile:
- Solar boost technologies for coal & gas fired power stations

Indonesia:
- Reduction of Global Warming Gases through torrefaction systems in which Indonesian biomass is used
- Investigation for developing energy saving and heat recovering waste treatment system

METI’s FSs for Policy Recommendation
NEDO’s FSs for Project Exploration/Development
NEDO’s MRV Applicability Verification Studies
**Indonesia:**
- Energy saving by optimum operation at Oil factory (Yokogawa Electric) ※since FY2013
  Multivariable model predictive control (MMPC), a kind of advanced optimization control at oil refinery plants, is added on existing DCS (Distributed Control System) and realizes the automatic operation control for the optimum production.

- Utility facility operation optimization technology into Oil factory (Yokogawa Electric)
  ※since FY2013
  The project achieves energy conservation in boilers, through operation optimization by applying Utility Facility Operation Optimization Technology.

- Thin-Film solar power plant (Sharp)
  ※since FY2013
  Installing Thin-film PV and verifying its GHG emission reduction effect by the remote auto-monitoring system which complement the monitoring lacking data, with the minimum equipment composition.

**Vietnam:**
- Energy saving by inverter air conditioner optimum operation at National Hospital (Mitsubishi Electric)
  ※since FY2013
  Installing inverter room air conditioners (RACs) and Energy Management System (EMS) to optimize operation of multiple inverter RACs in national hospitals.

- Energy saving by BEMS optimum operation at Hotel (Hibiya Engineering)
  ※since FY2013
  Integrating highly-proven energy saving technologies for hot water supply and lighting combined with energy management system to optimize these technologies.

- Energy saving paper making process (Marubeni)
  ※since FY2014
  Introduction of high efficient and environment friendly machines to alter old papermaking process in paper production line.

- Energy Saving and Work Efficiency Improvement Project by special LED Equipment with new technology, COB (Stanley Electric)
  ※since FY2015
  Introducing the special LED lighting equipment with new technology, COB module as a source of light into the fishing vessels currently equipped with the metal halide light and incandescent lamps.

**Mongolia:**
- High efficiency and low loss power transmission and distribution system (Hitachi)
  ※since FY2013
  Reduction of transmission loss by introduction of LL-ACSR/SA (Low Electrical Power Loss Aluminum Conductors, Aluminum-Clad Steel Reinforced).

**Lao PDR:**
- Lao PDR Energy efficient date center (LEED) (Toyota Tsusho Corporation, Internet Initiative Japan)
  ※since 2014
  Utilizing high energy efficient container-type data centers, related technologies will be demonstrated under Lao PDR environment, such as unstable power supply, hot and humid atmosphere etc.

Total: **10 projects** (4 countries)
Underlined Project in Vietnam is registered as a JCM project.
Capacity Building Programmes & Feasibility Studies by MOE

**Capacity Building Programmes**

**Region**
Asia, Africa, Latin America, and Small Island countries

**Scope**
Facilitating understanding on the JCM rules and guidelines, enhancing capacities for implementing MRV

**Activities**
Consultations, workshops, seminars, training courses and study tours, etc.

**Target**
Government officials, private sectors, candidate for validation & verification entities, local institutes and NGOs

**Feasibility Studies**

**Objective**
Elaborating investment plan on JCM projects, developing MRV methodologies and investigating feasibility on potential JCM projects,

**Type of studies**
- JCM Project Planning Study (PS)
  - To develop a JCM Project in the next fiscal year
- JCM Feasibility Study (FS)
  - To survey feasibility of potential JCM projects
- FS for City to City Collaboration Project
  - To survey feasibility of potential large scale JCM projects including city level collaboration

**Reports**
Available at GEC (Global Environment Centre Foundation) website <URL: http://gec.jp>

**Outreach**

New Mechanisms Information Platform website provides the latest information on the JCM <URL: http://www.mmechanisms.org/e/index.html>
The draft budget for projects starting from FY 2016 is 6.7 billion JPY (approx. USD 56 million) in total by FY2018. The budget will be fixed after approval by the Parliament.

Finance part of an investment cost (less than half)

Conduct MRV and expected to deliver at least half of JCM credits issued

Scope of the financing: facilities, equipment, vehicles, etc. which reduce CO2 from fossil fuel combustion as well as construction cost for installing those facilities, etc.

Eligible Projects: starting installation after the adoption of the financing and finishing installation within three years.

※Includes collaboration with projects supported by JICA and other governmental-affiliated financial institute.
ADB Trust Fund: Japan Fund for Joint Crediting Mechanism (JFJCM)

**Draft Budget for FY2016**
1.2 billion JPY (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 Asian Development Bank (ADB)-financed projects.

**Purpose**
To develop ADB projects as the “Leapfrog” developments by the advanced technologies and to seek to acquire JCM credits for achievement of Japan’s GHG emission reduction target.

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* OCR: Ordinary Capital Resources, ADF: Asian Development Fund
**JCM REDD+ Model Projects by MOE**

**Background**
- Deforestation and forest degradation in developing countries
- 17 demonstration feasibility studies from 2011 to 2014

**Expected outcome**
- Participatory monitoring of illegal logging, disaster prevention, and forest restoration
- Provision of alternative livelihoods

**Projects outline**
- The draft budget for FY 2016: 80 million JPY (approx. USD 0.67 million)

**Government of Japan**
- Finance part of the cost
- Deliver JCM credits issued *

**International consortiums (which include Japanese entities)**

*At least half or ratio of financial support to project cost of JCM credits issued are expected to be delivered to the government of Japan except the amount which is allocated to the partner country based on its legislation.
※These projects may be implemented in cooperation with other organizations such as JICA

REDD+ (Reducing Emissions from Deforestation and Forest Degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries )

**Purpose**
Implement activities for REDD+ and seek to acquire JCM credits for achievement of Japan’s GHG emission reduction target

**Project budget and implementation term**
- Up to 40 million JPY/year (fixed)

**Eligible Companies**
Japanese corporation (the representative of international consortiums)
<table>
<thead>
<tr>
<th>Country</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethiopia</td>
<td>○ Introduction of Biomass CHP Plant in Flooring Factory</td>
</tr>
<tr>
<td>Kenya</td>
<td>○ Solar Diesel Abatement Projects ○ 6MW Small Hydropower Generation Project in Rupingazi ○ Introduction of Solar PV System at Salt Factory</td>
</tr>
<tr>
<td>Myanmar</td>
<td>○ PV Power Generation and Relevant Monitoring System for the Office Building</td>
</tr>
<tr>
<td>Maldives</td>
<td>○ Solar Power on Rooftop of School Building Project ■ Smart Micro-Grid System for POISED Project in Addu Atoll ○ Model project in FY 2013 (3 countries, 7 projects) ○ Model project in FY 2014 (7 countries, 15 projects) ■ ADB project in FY 2014 (1 country, 1 project) ○ Model project in FY 2015 (10 countries, 34 projects) ■ REDD+ Model Project in FY 2015 (2 countries, 2 projects)</td>
</tr>
<tr>
<td>Laos</td>
<td>○ REDD+ project in Luang Prabang Province through controlling slash-and-burn</td>
</tr>
<tr>
<td>Total 14 countries, 59 projects</td>
<td></td>
</tr>
</tbody>
</table>

The underlined projects have been registered as the JCM projects (7 projects)

※These projects account for 2 registered JCM projects respectively, as they’re operating in different sites
Mongolia:
- Distributed heat supply system using biomass and coal mixture combustion type boiler

Philippines:
- Talubin Mini-Hydropower Project
- Energy saving in industrial wastewater treatment for rubber industry
- Hybrid Power Generation Project Using Biogas and Solar Power
- Development of District Energy Supply Business by introducing co-generation
- Introduction of co-generation and solar power generation systems in large shopping malls

Indonesia:
- Utilization of agricultural biomass in Cement Kiln
- Biogas recovery and utilization in tapioca starch factory
- Recycling of sludge and sewage sludge as fertilizer
- Energy saving in industrial wastewater treatment for rubber industry
- Introduction of co-generation and solar power generation systems in large shopping malls

Lao PDR:
- Recovery and utilization of biogas from agricultural processing waste in Ninh Binh Province
- Waste Heat Recovery Power Generation at Cement Factory in Quang Ninh Province

Viet Nam:
- Recovery and utilization of biogas from agricultural processing waste in Ninh Binh Province
- Low-carbon project by introducing PV and energy saving equipment in Hotel, Office Building and others

Bangladesh:
- Energy saving by utilizing lithium-ion batteries at base transceiver stations in unstable-grid areas
- Energy saving by introducing regenerative energy storage system in Skytrain
- Saving Energy for station facilities utilizing regenerative energy from trains
- Energy saving by co-generation project in the fiber factory

Thailand:
- Energy saving by introducing regenerative energy storage system in Skytrain
- Saving Energy for station facilities utilizing regenerative energy from trains
- Energy saving by co-generation project in the fiber factory
- Energy saving by utilizing lithium-ion batteries at base transceiver stations in unstable-grid areas

Myanmar:
- Rice husk power generation in rice mill factory in Ayeyarwady
- JCM Project Planning Study (PS)
- JCM Feasibility Study (FS)

Cambodia:
- Installation of high-efficiency chillers in large-scale hotels

Chile:
- Geothermal Power Generation in the south of Santiago

Costa Rica:
- Low-carbon project by introducing PV and energy saving equipment in Hotel, Office Building and others

Viet Nam:
- Recovery and utilization of biogas from agricultural processing waste in Ninh Binh Province
- Waste Heat Recovery Power Generation at Cement Factory in Quang Ninh Province

Philippines:
- Talubin Mini-Hydropower Project
FY2015 Feasibility studies for city to city collaboration project by MOEJ

1. Promotion of low carbon city by properly developing material recycling systems in Bengaluru City (Bengaluru City)
2. Establishment of Base for Low-Carbon Project Expansion in Surabaya (Surabaya)
3. Project for Developing JCM projects under city-to-city collaboration between Yokohama city and Batam city (Batam)
4. Project for Low Carbon Society Development under Collaboration between Bandung City and City of Kawasaki (Bandung City)
5. Project for Developing Low-carbon Tourism Cities through the Joint Crediting Mechanism in Siem Reap (Siem Reap)
6. JCM projects development (energy efficiency, and waste and waste water) under the Bangkok Master Plan on Climate Change, and study on financial and other facilitation schemes for introducing low carbon technologies (Bangkok)
7. Promotion of Decarbonizing of Municipal Waste Management and Ecological Industrial Town in Rayong Prefecture (Rayong Pref.)
8. JCM Feasibility Study in Da Nang through "Technical Cooperation for Sustainable Urban Development" with Yokohama City (Da Nang)
9. The whole city low carbonization in Hai Phong City (Hai Phong)
10. Ho Chi Minh City – Osaka City Cooperation Programme for Developing Low Carbon City (Ho Chi Minh)
11. Establishment of Base for Low-Carbon Project Expansion in Iskandar (Iskandar)
12. Study for building a sustainable low carbon city around the industrial zone in Pathein city, Ayeyarwady Division, Myanmar (Pathein)
13. JCM Project Formulation Study through City-to-City Collaboration in Yangon (Yangon)
14. Programme for the Establishment of Low-Carbon Historic City in Vientiane, based on City-to-City Cooperation between Vientiane Capital and Kyoto City (Vientiane Capital)
Reference: Technical Details for the JCM

(Subject to further consideration and discussion with partner countries)
<table>
<thead>
<tr>
<th>Necessary documents for the JCM</th>
</tr>
</thead>
</table>

(Subject to further consideration and discussion with partner countries)

<table>
<thead>
<tr>
<th>Rules and Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Rules of Implementation</td>
</tr>
<tr>
<td>✓ Project Cycle Procedure</td>
</tr>
<tr>
<td>✓ Glossary of Terms</td>
</tr>
<tr>
<td>✓ Guidelines for Designation as a Third-Party Entity (TPE guidelines)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overall</th>
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<tbody>
<tr>
<td>✓ Rules of Procedures for the Joint Committee (JC rules)</td>
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</table>

<table>
<thead>
<tr>
<th>Joint Committee</th>
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<tbody>
<tr>
<td>✓ Guidelines for Developing Proposed Methodology (methodology guidelines)</td>
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</table>

<table>
<thead>
<tr>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Guidelines for Developing Proposed Methodology (methodology guidelines)</td>
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</table>

<table>
<thead>
<tr>
<th>Project Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing a PDD</td>
</tr>
<tr>
<td>✓ Guidelines for Developing Project Design Document and Monitoring Report (PDD and monitoring guidelines)</td>
</tr>
<tr>
<td>Monitoring</td>
</tr>
<tr>
<td>✓ Guidelines for Validation and Verification (VV guidelines)</td>
</tr>
<tr>
<td>Validation</td>
</tr>
<tr>
<td>Verification</td>
</tr>
</tbody>
</table>

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Methodology Development Procedure of the JCM

(Subject to further consideration and discussion with partner countries)

- **Submission of Proposed Methodology**
  - **Project Participant (Methodology Proponent)**
    - Prepare a proposed methodology
      - Methodology guidelines
      - Proposed methodology form
      - Proposed Methodology Spreadsheet Form
  - **Government (Methodology Proponent)**
    - Prepare a proposed methodology
      - Methodology guidelines
      - Proposed methodology form
      - Proposed Methodology Spreadsheet Form

- **Completeness Check [7 days] (secretariat)**
  - Notify the receipt of the submission
  - Communicate the result of completeness check

- **Public Inputs [15 days] (secretariat)**

- **Approval of the proposed methodology [60 days or up to 90 days]**

- **Approval of the proposed methodology**

Note: Asterisk (*) indicates documentation relevant for each step of the procedure
Registration & Issuance Procedure of the JCM (1/2)

(Subject to further consideration and discussion with partner countries)

**Development of PDD**
- Complete a PDD and develop a monitoring plan
  - *PDD form and Monitoring Spreadsheet*
  - *PDD and monitoring guidelines*
- Complete an MoC Form
  - *MoC Form*

**Validation**
- Validate a project
- Prepare a validation report
  - *Validation and verification guidelines*
  - *Validation report form*

**Registration**
- Complete a registration request form
  - *Registration request form*

**Project Participant**
- Submit the draft PDD and MoC, and request for validation and public inputs

**Third-Party Entity**
- Notify the receipt of the submission
- Submit the validation report

**Joint Committee**
- Validate a project
- Prepare a validation report
- Notify the receipt of the submission

**Government**
- Notify the conclusion [7 days] (secretariat)
- Notify the registration

*Validation and verification can be conducted simultaneously or separately.*
Registration & Issuance Procedure of the JCM (2/2)

Project Participant
- Conduct monitoring
- Prepare a monitoring report
  * PDD and monitoring guidelines
  * Monitoring report sheet

Third-Party Entity
- Submit the monitoring report for verification

Joint Committee
- Verify emission reductions
- Prepare a verification report
  * Validation and Verification guidelines
  * Verification report form

Government
- Notify the amount of credits to be issued

Monitoring

Verification

Validation and verification can be conducted simultaneously or separately.

Issuance

- Determine allocation of credits
- Complete a credit issuance request form
  * Credit issuance request form

- Request for notification for issuance

- Notify the receipt of the request [7 days] (secretariat)

- Completeness check

- Decision on notification of amount of credits to be issued

- Notify the result

- Notify the issuance

- Issuance of credits
Members
- The Joint Committee (JC) consists of representatives from both Governments.
- Each Government designates members, which may not exceed 10.
- The JC has two Co-chairs to be appointed by each Government (one from the partner country and the other from Japan). Each Co-Chair can designate an alternate from members of the JC.

Decision making in the JC
- The JC meets no less than once a year and decision by the JC is adopted by consensus.
- The JC may adopt decisions by electronic means in the following procedure:
  (a) The proposed decisions are distributed by the Co-Chairs to all members of the JC.
  (b) The proposed decision is deemed as adopted when,
      i) no member of the JC has provided negative assertion within 10 calendar days after distribution and both Co-Chairs have made affirmative assertion, or
      ii) all members of the JC have made affirmative assertion.
- If a negative assertion is made by one of the JC members, the Co-Chairs take into account the opinion of the member and take appropriate actions.
- The JC may hold conference calls to assist making decisions by electronic means.

External assistance
- The JC may establish panels and appoint external experts to assist part of its work.

Languages: English  Secretary: The secretariat services the JC.
Confidentiality: Members of the JC, Secretariat, etc. respect confidentiality.
Record of the meeting: The full text of all decisions of the JC is made publicly available.
In the JCM, emission reductions to be credited are defined as the difference between “reference emissions” and project emissions.

The reference emissions are calculated below business-as-usual (BaU) emissions which represent plausible emissions in providing the same outputs or service level of the proposed JCM project in the partner country.

This approach will ensure a net decrease and/or avoidance of GHG emissions.
A net decrease and/or avoidance of GHG emissions can be realized in alternative way, instead of calculating the reference emissions below BaU emissions.

Using conservative default values in parameters to calculate project emissions instead of measuring actual values will lead calculated project emissions larger than actual project emissions.

This approach will also ensure a net decrease and/or avoidance of GHG emissions, as well as reduce burdens of monitoring.

Addendum: ways to realize net reduction

(Subject to further consideration and discussion with partner countries)
Key Features of the JCM methodology

- The JCM methodologies are designed in such a way that project participants can use them easily and verifiers can verify the data easily.
- In order to reduce monitoring burden, default values are widely used in a conservative manner.
- Eligibility criteria clearly defined in the methodology can reduce the risks of rejection of the projects proposed by project participants.

<table>
<thead>
<tr>
<th>Eligibility criteria</th>
<th>• A “check list” will allow easy determination of eligibility of a proposed project under the JCM and applicability of JCM methodologies to the project.</th>
</tr>
</thead>
</table>
| Data (parameter)     | • List of parameters will allow project participants to determine what data is necessary to calculate GHG emission reductions/removals with JCM methodologies.  
• Default values for specific country and sector are provided beforehand. |
| Calculation          | • Premade spreadsheets will allow GHG emission reductions/removals to be calculated automatically by inputting relevant values for parameters, in accordance with methodologies. |
Eligibility criteria in JCM methodologies contain the following:

- The requirements for the project to be registered as a JCM project. *<Basis for the assessment of validation and registration of a proposed project>*
- The requirements for the project to be able to apply the JCM methodology. *<same as “applicability condition of the methodology” under the CDM>*

1. Both Governments determine what technologies, products, etc should be included in the eligibility criteria through the approval process of the JCM methodologies by the Joint Committee.
2. Project participants can use the list of approved JCM methodologies when applying for the JCM project registration.

Examples of eligibility criteria 1.

- Introduction of *xx* (products/technologies) whose design efficiency is above *xx* (e.g. output/kWh) *<Benchmark Approach>*
- Introduction of *xx* (specific high efficient products/technologies, such as air conditioner with inverter, electric vehicles, or PV combined with battery) *<Positive List Approach>*

Examples of eligibility criteria 2.

- Existence of historical data for *x* year(s)
- Electricity generation by *xx* (e.g. PV, wind turbine) connected to the grid
- Retrofit of the existing boiler
Overview of JCM Methodology, Monitoring Plan and Monitoring Report

JCM methodology consists of the followings.

- Approved Methodology Document
- Monitoring Spreadsheet
  - Monitoring Plan Sheet (including Input Sheet & Calculation Process Sheet)
  - Monitoring Structure Sheet
  - Monitoring Report Sheet (including Input Sheet & Calculation Process Sheet)
Developing a Project Design Document (PDD) and a Monitoring Plan

A PDD form should be filled in with information of the proposed project.
A Monitoring Plan consists of Monitoring Plan Sheet and Monitoring Structure Sheet, and it should be filled in as well.

Roles and responsibilities of personnel for monitoring should be described (Subject to further consideration and discussion with partner countries)

Other necessary information on parameters to be monitored are:
- Monitoring options
- Source of data
- Measurement methods and procedures
- Monitoring frequency

Cells for data input (ex ante)
A. Project description
   A.1. Title of the JCM project
   A.2. General description of project and applied technologies and/or measures
   A.3. Location of project, including coordinates
   A.4. Name of project participants
   A.5. Duration
   A.6. Contribution from developed countries

B. Application of an approved JCM methodology(ies)
   B.1. Selection of JCM methodology(ies)
   B.2. Explanation of how the project meets eligibility criteria of the approved methodology

C. Calculation of emission reductions
   C.1. All emission sources and their associated greenhouse gases relevant to the JCM project
   C.2. Figure of all emission sources and monitoring points relevant to the JCM project
   C.3. Estimated emissions reductions in each year

D. Environmental impact assessment

E. Local Stakeholder consultation
   E.1. Solicitation of comments from local stakeholders
   E.2. Summary of comments received and their consideration

F. References

Annex

Approved Methodology Spreadsheet consists of Monitoring Plan Sheet, Monitoring Structure Sheet and Monitoring Report Sheet, and it shall be attached to the PDD.
Making a Monitoring Report

- A Monitoring Report should be made by filling cells for data input (ex post) in the Monitoring Report Sheet with monitored values.
- Project participants prepare supporting documents which include evidence for stated values in the cells for data input.

Other necessary information on monitored parameters are to be filled in:
- Monitoring options
- Source of data
- Measurement methods and procedures
- Monitoring frequency