Recent Development of The Joint Crediting Mechanism (JCM)

December 2013
Government of Japan

All ideas are subject to further consideration and discussion with host countries
In order to effectively address the issue of climate change, it is necessary for both developed and developing countries to achieve low-carbon growth all around the world by fully mobilizing technology, markets and finance.

Widespread use of advanced low-carbon technologies and products in various fields including renewable energy, highly efficient power generation, home electronics, low-emission vehicles, and energy-savings in factories must be accelerated.

Realizing a low carbon society by combining these technologies and products with appropriate systems, services, and infrastructure is also crucial.
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 to GHG emission reductions or removals from Japan in a quantitative manner, by applying measurement, reporting and verification (MRV) methodologies, 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, complementing the CDM.
**Scheme of the JCM**

**Japan**

- **Government**
  - Issuance of credits

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

- **Third party entities**
  - Validate projects
  - Verify amount of GHG emission reductions or removals

- **Joint Committee (Secretariat)**
  - Develops/revises the rules, guidelines and methodologies
  - Registers projects
  - Discusses the implementation of JCM

**Host Country**

- **Government**
  - Issuance of credits

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

- **Third party entities**
  - Request registration of projects
  - Submit PDD/monitoring report

- **Joint Committee (Secretariat)**
  - Notifies registration of projects
  - Reports issuance of credits

**Conduct policy consultations**

- **Request registration of projects**
- **Submit PDD/monitoring report**
- **Inform results of validation/verification**
The role of the Joint Committee and each Government

- 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.
The JCM should be designed and implemented, taking into account the followings:

1. Ensuring the robust methodologies, transparency and the environmental integrity;

2. Maintaining simplicity and practicality based on the rules and guidelines;

3. Promoting concrete actions for global GHG emission reductions or removals;

4. Preventing uses of any mitigation projects registered under the JCM for the purpose of any other international climate mitigation mechanisms to avoid double counting on GHG emission reductions or removals.
Features of the JCM

(1) The JCM starts its operation as the non-tradable credit type mechanism.

(2) Both Governments continue consultation for the transition to the 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.
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<thead>
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<th>JCM</th>
<th>CDM</th>
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<td><strong>Project Participant / Each Government Joint Committee</strong></td>
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<td><strong>Submission of Proposed Methodology</strong></td>
<td><strong>CDM Executive Board</strong></td>
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<td><strong>Joint Committee</strong></td>
<td><strong>Project Participant</strong></td>
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<td><strong>Joint Committee</strong></td>
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<td><strong>Registration</strong></td>
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<td><strong>Third Party Entities</strong></td>
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<td><strong>Verification</strong></td>
<td></td>
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<tr>
<td><strong>Joint Committee decides the amount Each Government issues the credit</strong></td>
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<tr>
<td><strong>Issuance of credits</strong></td>
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*Main actors at each process*

- Can be conducted by the same TPE
- Can be conducted simultaneously

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**Notes:**

- JCM and CDM processes are interlinked.
- Each step involves specific actors as indicated.
- Collaborative activities between the Joint Committee and Project Participants are highlighted.
### Key features of the JCM in comparison with the CDM

<table>
<thead>
<tr>
<th></th>
<th>JCM</th>
<th>CDM</th>
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<tr>
<td>Governance</td>
<td>“de-centralized” structure (Each Government, Joint Committee)</td>
<td>“centralized” structure (CMP, CDM Executive Board)</td>
</tr>
<tr>
<td>Sector/project Coverage</td>
<td>Broader coverage</td>
<td>Specific projects are difficult to implement in practice (e.g. USC coal-fired power generation)</td>
</tr>
<tr>
<td>Validation of projects</td>
<td>In addition to DOEs, ISO14065 certification bodies can conduct</td>
<td>Only DOEs can conduct</td>
</tr>
<tr>
<td></td>
<td>Checking whether a proposed project fits eligibility criteria which can be examined objectively</td>
<td>Assessment of additionality of each proposed project against hypothetical scenarios</td>
</tr>
<tr>
<td>Calculation of Emission Reductions</td>
<td>Spreadsheets are provided - Default values can be used in conservative manner when monitored parameters are limited.</td>
<td>Various formulas are listed - Strict requirements for measurement of parameters</td>
</tr>
<tr>
<td>Verification of projects</td>
<td>The entity which validated the project can conduct verification</td>
<td>In principle, the entity which validated the project cannot conduct verification</td>
</tr>
<tr>
<td></td>
<td>Validation &amp; verification can be conducted simultaneously</td>
<td>Validation &amp; verification must be conducted separately</td>
</tr>
</tbody>
</table>

(Subject to further consideration and discussion with host countries)
## Roadmap for the JCM

<table>
<thead>
<tr>
<th>JFY2011</th>
<th>JFY2012</th>
<th>JFY2013</th>
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<tbody>
<tr>
<td></td>
<td>Governmental Consultation</td>
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<tr>
<td>Feasibility Studies</td>
<td>Explore potential JCM projects/activities</td>
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<tr>
<td></td>
<td>Study feasibilities</td>
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<td></td>
<td>Develop MRV methodologies</td>
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<td></td>
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<tr>
<td>MRV Demonstration Projects</td>
<td>Apply proposed MRV methodologies to projects in operation</td>
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<tr>
<td></td>
<td>Improve MRV methodologies by using them</td>
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<tr>
<td></td>
<td>Finalize MRV methodologies</td>
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<tr>
<td>JCM Demonstration Projects</td>
<td>Further improve the institutional design of the JCM, while starting JCM operation</td>
<td></td>
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<tr>
<td>Capacity Building</td>
<td>UNFCCC negotiations on Framework for Various Approaches</td>
<td></td>
</tr>
</tbody>
</table>

- **JCM Operation**
  - Establishment of the JC
  - Development of rules and guidelines
Countries with which Japan has signed on bilateral documents

- Japan has held consultations for the JCM with developing countries since 2011 and signed the bilateral document for the JCM with Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Lao PDR, Indonesia and Costa Rica.

- Japan held the 1st Joint Committee with Mongolia, Bangladesh, Ethiopia, Kenya, Viet Nam and Indonesia respectively.
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;
46. Decides that the work programme referred to in paragraph 44 above shall address the following elements, inter alia:

(a) The purposes of the framework;
(b) The scope of approaches to be included under the framework;
(c) A set of criteria and procedures to ensure the environmental integrity of approaches in accordance with decision 2/CP.17, paragraph 79;
(d) Technical specifications to avoid double counting through the accurate and consistent recording and tracking of mitigation outcomes;
(e) The institutional arrangements for the framework;

- The JCM is one of various approaches Japan and partner countries are jointly developing and implementing, and Japan intends to contribute to elaborating the framework for such approaches under the UNFCCC.
- Japan also intends to report to the COP regarding the use of the JCM in Biennial Reports including the Common Tabular in line with Decision 19/CP18.
Technical Details Currently Considered for the JCM

(Subject to further consideration and discussion with host countries)
# Necessary documents for the JCM

*(Subject to further consideration and discussion with host countries)*

<table>
<thead>
<tr>
<th>Necessary Documents</th>
<th>Rules and Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong></td>
<td>✓ Rules of Implementation&lt;br&gt; ✓ Project Cycle Procedure&lt;br&gt; ✓ Glossary of Terms&lt;br&gt; ✓ Guidelines for Designation as a Third-Party Entity (TPE guidelines)</td>
</tr>
<tr>
<td><strong>Joint Committee</strong></td>
<td>✓ Rules of Procedures for the Joint Committee (JC rules)</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>✓ Guidelines for Developing Proposed Methodology (methodology guidelines)</td>
</tr>
<tr>
<td><strong>Project Procedures</strong></td>
<td>✓ Guidelines for Developing Project Design Document and Monitoring Report (PDD and monitoring guidelines)</td>
</tr>
<tr>
<td><strong>Developing a PDD</strong></td>
<td>✓ Guidelines for Validation and Verification (VV guidelines)</td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>✓ Guidelines for Developing Project Design Document and Monitoring Report (PDD and monitoring guidelines)</td>
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</tr>
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</table>
Methodology Development Procedure of the JCM

(Subject to further consideration and discussion with host countries)

**Submission of Proposed Methodology**
- Prepare a proposed methodology
  - Methodology guidelines
  - Proposed methodology form
  - Proposed Methodology Spreadsheet Form

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

**Public Inputs**
- Public inputs [15 days] (secretariat)
- Assessment of the proposed methodology [60 days or up to 90 days]

**Approval of Proposed Methodology**
- Approval of the proposed methodology

**Project Participant (Methodology Propponent)**
- Prepare a proposed methodology
  - Methodology guidelines
  - Proposed methodology form
  - Proposed Methodology Spreadsheet Form

**Government (Methodology Propponent)**
- Prepare a proposed methodology
  - Methodology guidelines
  - Proposed methodology form
  - Proposed Methodology Spreadsheet Form

**Joint Committee**
- Develop a proposed methodology under the initiative of the Joint Committee

*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 host 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
- Validation and verification can be conducted simultaneously or separately.
  - Validate a project
  - Prepare a validation report
    - Validation and verification guidelines
    - Validation report form

### Registration
- Complete a registration request form
  - Registration request form

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

**Third-Party Entity**
- Submit the validation report

**Joint Committee**
- Notify the public inputs [30 days] (secretariat)

**Government**
- Notify the receipt of the submission
- Notify the completeness check [7 days] (secretariat)
- Notify the conclusion
- Notify the registration
- Registration

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(subject to further consideration and discussion with host countries)
Registration & Issuance Procedure of the JCM (2/2)

(Supplementary to further consideration and discussion with host countries)

**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**

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**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

- Completeness check [7 days] (secretariat)
- Decision on notification of amount of credits to be issued

Notify the receipt of the request

Notify the result

Notify the amount of credits to be issued

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 host 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:
  1. The proposed decisions are distributed by the Co-Chairs to all members of the JC.
  2. The proposed decision is deemed as adopted when,
     1. no member of the JC has provided negative assertion within 20 calendar days after distribution and both Co-Chairs have made affirmative assertion, or
     2. 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  
Secretariat: 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 host country.

This approach will ensure a net decrease and/or avoidance of GHG emissions.

![Diagram showing reference emissions, project emissions, and emission reductions](image-url)

(Subject to further consideration and discussion with host countries)
Reference emissions are calculated by multiplying a “crediting threshold” which is typically expressed as GHG emissions per unit of output by total outputs.

A crediting threshold should be established \textit{ex ante} in the methodology applicable for the same project type in the host country. It should also be established conservatively in order to calculate reference emissions below BaU emissions.

This standardized approach will greatly reduce the burden of analyzing many hypothetical scenarios for demonstrating additionality of the proposed project such as under the CDM, whereas increase transparency for calculating GHG emission reductions.
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 host 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 inform project participants of 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 help calculate GHG emission reductions/removals automatically by inputting relevant values for parameters, in accordance with methodologies. |
The eligibility criteria in each JCM methodology should be established, in order to reduce emissions by:

- accelerating the deployment of low carbon technologies, products and services, which will contribute to achieving net emission reductions;
- facilitating the nationally appropriate mitigation actions (NAMAs) in host countries.

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, similar to positive list, when applying for the JCM project registration.
Eligibility Criteria of the JCM

Eligibility criteria in JCM methodologies shall contain the following:

1. The requirements for the project in order to be registered as a JCM project. <Basis for the assessment of validation and registration of a proposed project>

2. The requirements for the project to be able to apply the JCM methodology. <same as “applicability condition of the methodology” under the CDM>

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
Simple check list is provided for project participants to determine the eligibility of a proposed project under the JCM and applicability of the methodology.

All the criteria have to be met in order to apply a methodology.

**Example: Building energy management system**

<table>
<thead>
<tr>
<th>Criterion 1</th>
<th>• Energy Management System is to be introduced in already existing buildings.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion 2</td>
<td>• The operation and control of equipment and facilities to reduce energy consumption for indoor environments are to be carried out by Energy Management System itself, not just upgrading equipments for energy consumption.</td>
</tr>
<tr>
<td>Criterion 3</td>
<td>• Be able to identify all energy consumption in the building(s) having equipment controlled by Energy Management System.</td>
</tr>
</tbody>
</table>
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

Cells for data input (ex ante)

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

(Subject to further consideration and discussion with host countries)
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
Possible Contents of the JCM PDD

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.
References

◆ Feasibility Studies
◆ Capacity Building
## JCM Promotion Scheme by METI

### JCM Demonstration Projects
- 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.
- The budget for FY 2013: 3.5 billion JPY (approximately $38 million)
- 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.

### 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.
JCM Feasibility Studies (FSs) by METI & NEDO in FY2012

54 projects were selected (19 countries)

- **Kazakhstan:**
  - Coal-fired Power Generation

- **Bangladesh:**
  - CCGT power generation

- **Maldives:**
  - Air conditioners by using deep sea water

- **Djibouti, Ethiopia:**
  - Geothermal Power Generation

- **Mozambique:**
  - BDF (Bio Diesel Fuel) & PV (Photovoltaic) Hybrid Power Generation System

- **South Africa:**
  - Energy Saving project at cement industry
  - Multi-Stage Deep Seawater Utilization System

- **Mauritius & etc.:**
  - Energy saving project at cement industry

- **India:**
  - Energy Efficient Technologies for Integrated Steel Works
  - Run-of-river micro hydro power project
  - Energy Efficient Air Conditioners (HFC 32)
  - Coal Drying Technology (Low Temperature Waste Heat Recovery)
  - Highly Efficient Servers at Data Centers
  - Highly Efficient Coal Power Plants (Ultra super critical)
  - Energy Efficient Technologies for Integrated steel works

- **Myanmar:**
  - Run-of-river Micro Hydro Power Generation
  - Multi-Stage Deep Seawater Utilization System

- **Mongolia:**
  - Highly Efficient Transmission and Coal Power Plant

- **Vietnam:**
  - Small-Medium Hydropower Generation
  - Highly Efficient Energy Conservation Systems
  - Highly Efficient Air Conditioner
  - Energy Efficiency Technologies for Integrated steel works
  - Promotion of Water-Saving Showerheads
  - Disseminating and Promoting Electric Motorcycles
  - Highly Efficient Coal Power Plants (Ultra Super Critical)

- **Thailand, Vietnam, Malaysia:**
  - Energy Saving Systems at Commercial Facilities
  - Energy Saving project at cement industry
  - Green Convenience Stores
  - Micro-Scale Hydro Power Generation
  - Energy Efficient Air Conditioners (HFC 32)
  - Run-of-river Micro Hydro Power Generation

- **Philippines:**
  - Electric Three-Wheeled Vehicles

- **Japan:**
  - NEDO's FSs for Policy Recommendation (33 projects)
  - METI's FSs for Project Exploration/Development (21 projects)

- **Thailand:**
  - Introducing Heat Recovery Heat Pumps

- **Malaysia:**
  - Energy Network Construction and Energy Management System (EMS)

- **Mexico:**
  - Introduction of cogeneration facilities

- **Indonesia:**
  - Renewable Energy Hybrid System
  - Utility Facility Operation Optimization Technology
  - Replacement Project of the Existing Thermal Power Plants
  - Rehabilitation of Hydro Power Plants
  - REDD+ (5 projects)
  - Optimum control of plant equipment (by IT)
  - Wind-Power Generation (by EMS)
  - Mega-Solar Power Plants Using Thin-Film Solar Cells
  - Developing Technology of Biodiesel Fuel (BDF)
  - SNG project (Substitute Natural Gas)
  - CCS (Carbon dioxide Capture and Storage)
  - Biomass Power Generation
  - Eco-shipping for Coastal Cement Tanker
  - Small Hydro Power Generation
  - Geothermal Power Generation
  - Low-Rank Coal Fuel Waste Heat Drying Project
JCM Feasibility Studies (FSs) by METI & NEDO in FY2013

25 projects were selected (13 countries)

- METI’s FSs for Policy Recommendation (19 projects)
- NEDO’s FSs for Project Exploration/Development (5 projects)
- NRDO’s Demonstration Project (1 project)

**Mongolia:**
- Wind-Power generation
  - Energy efficient housing complex at Ger area
  - High efficiency and low loss power transmission and distribution system

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

**Kenya:**
- Dissemination of Solar lantern

**Kenya, Ethiopia:**
- Micro Hydro power plant

**Djibouti, Rwanda:**
- Geothermal Power Generation

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

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

**Laos:**
- Energy saving at beer plant
- REDD+

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

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

**Peru:**
- REDD+

**Mexico:**
- CCS (Carbon dioxide Capture and Storage)
METI engages in a variety of capacity building activities, such as seminars, dispatch of experts, invitation of technical experts, joint researches on MRV methodologies, and government-private sector dialogues:

(Purposes)
- To provide technical know-how necessary to implement GHG emissions reduction projects under the JCM
- To establish MRV methodologies for the JCM
- To train experts on MRV methodologies for the JCM
- To deepen understanding on the institutional and technical aspects of the JCM both at government and private sectors.

### Capacity building activities by METI in FY2013

<table>
<thead>
<tr>
<th>METI</th>
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<tbody>
<tr>
<td>* Other projects are under consideration in counterpart countries.</td>
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<tr>
<td><strong>Medium-sized wind power generation (Maldives)</strong></td>
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<tr>
<td><strong>Highly efficient servers at data centers (India)</strong></td>
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</tbody>
</table>

### Capacity building activities by METI in FY2012

<table>
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<th>METI</th>
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<tbody>
<tr>
<td><strong>Highly efficient transmission and coal power plant (Mongolia)</strong></td>
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<tr>
<td><strong>Eco-friendly driving using digital tachograph (Vietnam)</strong></td>
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<tr>
<td><strong>Reduce power transmission loss by using highly efficient transformer (Vietnam)</strong></td>
</tr>
<tr>
<td><strong>Highly efficient coal power plant (Ultra super critical) (Vietnam)</strong></td>
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<tr>
<td><strong>Energy saving project at cement industry (South Africa)</strong></td>
</tr>
<tr>
<td><strong>Highly efficient servers at Data Centers (India)</strong></td>
</tr>
<tr>
<td><strong>Energy efficient technologies at Steel plant (India)</strong></td>
</tr>
</tbody>
</table>

*Other projects are under consideration in counterpart countries.*
**JCM Promotion Scheme by MOEJ**

**Financing Programme for JCM Model Projects**

MOEJ will finance part of an investment cost (up to the half), on the premise that recipients seek to deliver JCM credits (half of issued) to the Government of Japan.

- The budget for FY 2013: 1.2 billion JPY (approximately $13 million)
- Recipient: International consortiums which include Japanese entities
- Scope of the financing: Facilities which reduce CO\textsubscript{2} from fossil fuel combustion as well as construction cost for installing those facilities
- Eligible Projects: Starting construction after the adaption of the financing, and finish construction within FY2013 (one year extension may be approved)

**Study Programmes for JCM Projects**

- JCM Project Planning Study (PS): The study for development of a Model Project in the next fiscal year at the earliest.
- JCM Methodology Demonstration Study (DS): The study to check the practicality of draft methodologies by applying existing projects under operation.
- JCM Feasibility Study (FS): The study to promote potential JCM projects and to survey their feasibility.

**Capacity Building Programmes for the JCM**
### Mongolia:
- **Upgrading and Installation of Centralized Control System of High-Efficiency Heat Only Boiler (HOB)**
  The high-efficiency Heat Only Boilers (HOBs) will replace outdated low-efficiency HOBs, to supply heated water for winter indoor heating. The project will also introduce centralized control system for the integrated heat supply in collective buildings.

### Bangladesh:
- **Brick Production based on Non-Firing Solidification Technology**
  In place of the existing brick production with the firing process with the combustion of coal, the new brick production with the non-firing solidification technology will be introduced.

### Vietnam:
- **Integrated Energy Efficiency Improvement at Beer Factory**
  A set of high performance equipment for energy efficiency improvement and renewable energy generation will be introduced in beer factories. Before the installation, the potential of energy saving and possible high potential points in the beer production process will be identified by using the energy structure analysis simulation technology.
- **Energy Efficient NH3 Heat Pumps to Marine Products Processing Industry**
  The high efficient heat pump using ammonia (NH3) as a refrigerant will be introduced to save their energy consumptions.

### Cambodia:
- **Small-scale Biomass Power Generation by Using Stirling Engines**
  The introduction of small-scale biomass power generation systems with stirling engines will replace diesel-based power generation at rice mills. The stirling engine, external-combustion engine, is suitable for the utilisation of biomass such as rice husk.

### Indonesia:
  The high performance refrigerating machine with efficient compressor and economizer cycle will be introduced for factory air-conditioning.
- **Energy Savings at Convenience Stores**
  The latest high-efficiency chillers with natural refrigerant (CO2 refrigerant), inverter-controlled air-conditioners, and LED lighting will be introduced in convenience stores. Rooftop photovoltaic power generation systems will also be introduced.
- **Energy Efficient Refrigerants to Cold Chain Industry**
  The advanced energy efficient non-fluorocarbon cooling system using NH3 and CO2 will be introduced in the food industry and logistics industry. A screw compressor and an IPM (interior permanent magnet synchronous) motor are adopted and operated integrally, to achieve high efficient operation of the cooling facility.
- **Energy Saving by Double Bundle-Type Heat Pump at Beverage Plant**
  A double bundle-type heat pump, generating both heating and cooling energy, will be installed to reduce energy consumption.
- **Energy Saving for Air-Conditioning and Process Cooling at Textile Factory (in West Java province & Banteng province)**
  The high performance refrigerating machine with efficient compressor and economizer cycle will be introduced for factory air-conditioning.
Overview of JCM Planning/Demonstration/Feasibility Studies in 2013 by MOEJ

Mongolia:
- ◆◆◆◆ 10MW-Scale Solar Power Plant and Rooftop Solar Power System
- ◼ Centralization of Heat Supply System by Installation of High Efficiency Heat only Boiler (HOB)
- △ 10MW-Scale Solar Power Generation for Stable Power Supply
- △ Energy Conservation at Cement Plant
- △ Improvement of Thermal Installation and Water Cleaning/Air Purge at Power Plants

Bangladesh:
- △ High-Efficiency Rice Husk Based Cogeneration
- △ Solar Power Generation with Long-Life Storage Battery in Non-Electrified Regions

Kenya:
- △ Expansion of Geothermal Project

Myanmar:
- △ Geothermal Binary Power Generation
- Myanmar (and Indonesia):
  - △ Solar–Diesel Hybrid Power Generation

Sri Lanka:
- △ Sustainable Biomass-Based Power Generation

Lao PDR:
- ◼ Promotion of Use of Electric Vehicles (EVs)

Thailand:
- ◼ Dissemination of High-Efficiency Inverter Air Conditioners
- △ Heat Recovery to Generate Both Cooling and Heating Energy

Viet Nam:
- ◆◆◆◆ Anaerobic Digestion of Organic Waste for Cogeneration at Market
- ◆◆◆◆ Integrated Energy Efficiency Improvement at Beer Factories
- ◼ Energy Efficiency Improvement of Glass Furnace
- △ Promotion of Public Transport Use by Park-&-Ride System
- △ Energy Saving Glass Windows for Buildings
- △ REDD+ with Livelihood Development and Biomass-based Power Generation

Bangladesh (and Indonesia):
- ◼ Promotion of Use of Electric Vehicles (EVs)

Myanmar (and Indonesia):
- ◼ Solar–Diesel Hybrid Power Generation

Indonesia:
- ◆◆◆◆ Energy Saving by High-Efficiency Centrifugal Chiller
- ◆◆◆◆ Power Generation by Waste Heat Recovery in Cement Industry
- ◼ Regenerative Burners for Aluminum Melting Furnaces
- △ Anaerobic Treatment for Wastewater from Rubber Plants
- △ Solar Power System at Off-Grid Cell Towers
- △ Improvement of REDD+ Implementation Using ICT Technology

Indonesia (and Myanmar):
- △ Solar–Diesel Hybrid Power Generation
New Mechanisms Information Platform

- **New Mechanisms Information Platform** website was established to provide the latest movements and information on the JCM.
- **Help Desk** also accepts and answers inquiries regarding the JCM.
- Another dedicated website for the JCM will be launched. In the meantime, all the documents regarding the JCM development (e.g. outcome of the JC, decisions, methodologies, and projects) are uploaded on this website.
- **URL:**