

Overview of the MOEJ's Study Programme and Financing Programme in 2013

JAPAN PAVILLION SIDE EVENT at COP19, WARSAW

Development of the Joint Crediting Mechanism (JCM) project and its methodology through JCM Promotion Scheme for FY 2013

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Background

Joint Crediting Mechanism (JCM):

- 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.

JCM Promotion Scheme by MOEJ

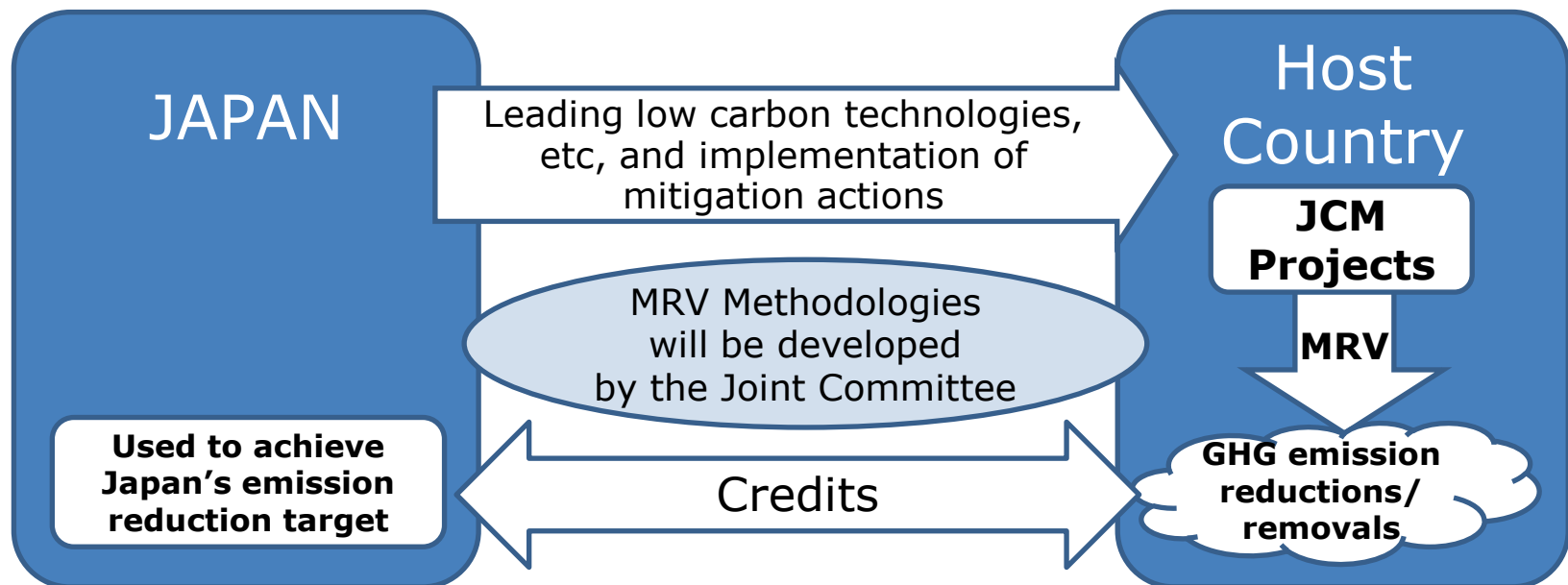
- The Ministry of the Environment Japan (MOEJ) launched:
 - Financing Programme for JCM Model Projects;
 - Study Programme for JCM Projects;
 - Capacity Building Programmes for the JCM.

Global Environment Centre Foundation (GEC):

- The Secretariat of Financing Programme and Study Programme for the JCM, commissioned by the Ministry of the Environment Japan (MOEJ)

Basic Concept of the JCM

- 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

Joint Committee (Secretariat)

- Develops/revises the rules, guidelines and methodologies
- Registers projects
- Discusses the implementation of JCM

Conduct policy consultations

Third party entities

- Validate projects
- Verify amount of GHG emission reductions or removals

Host Country

Government

- Issuance of credits

Project Participants

- Implementation & monitoring of projects

• Notifies registration of projects

• Reports issuance of credits

• Request registration of projects

• Submit PDD /monitoring report

• Inform results of validation /verification

• Notifies registration of projects

• Reports issuance of credits

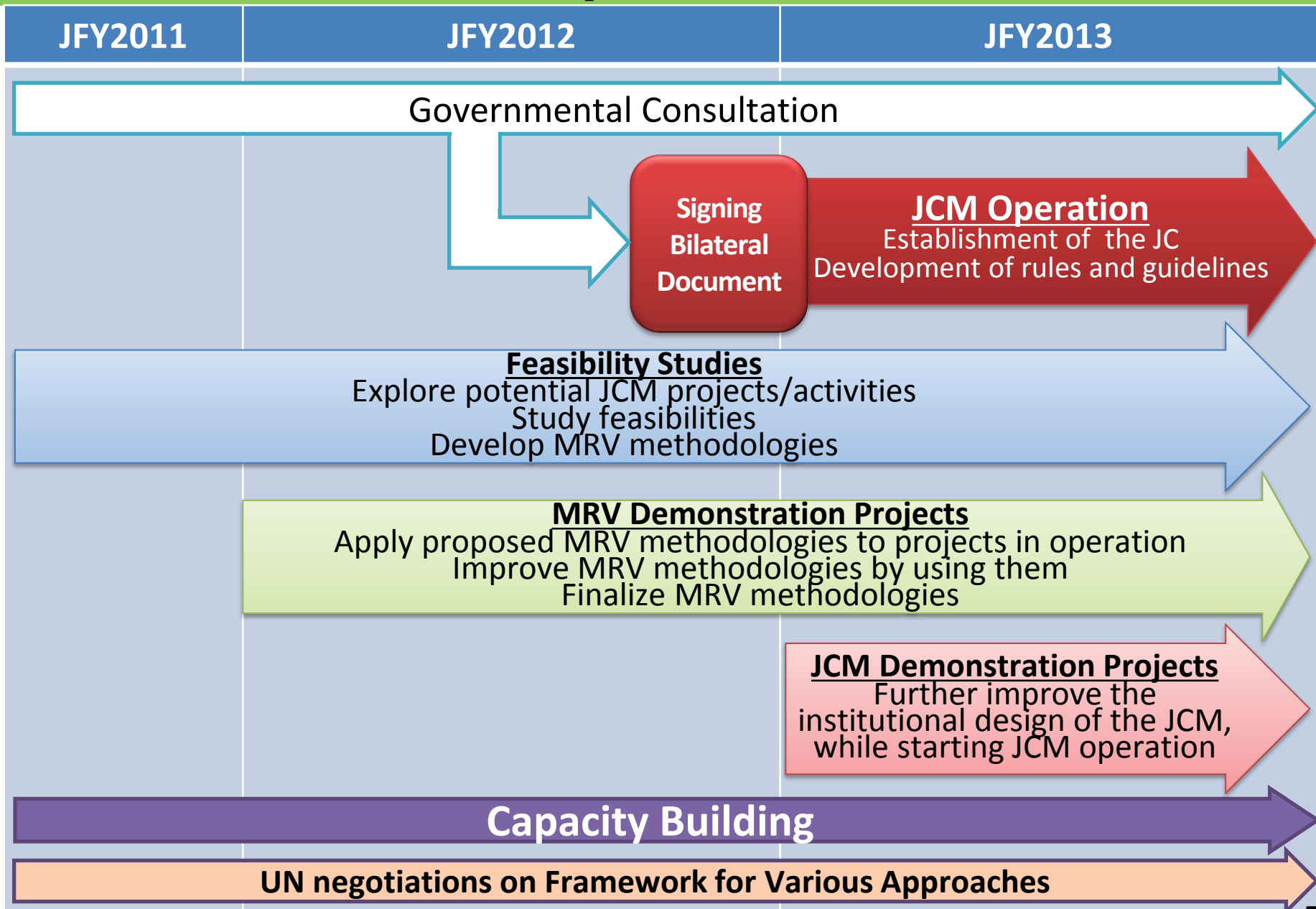
• Request registration of projects

• Submit PDD /monitoring report

• Inform results of validation /verification

• Request issuance of credits

Roadmap for the JCM



JCM Promotion Scheme by MOEJ

Financing Programme for JCM Model Projects



MOEJ will finance part of an investment cost (up to the half), as premises for seeking 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 CO₂ 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 near future.

JCM Methodology Demonstration Study (DS)

The study to check the practicality of the draft methodology by applying existing projects under operation.

JCM Feasibility Study (FS)

The study to promote potential JCM projects and to survey its feasibility.

Capacity Building Programmes for the JCM

Project Cycle and JCM Promotion Scheme

Project Participant / Each Government
Joint Committee

Joint Committee

Project Participant

Third Party Entities

Joint Committee

Project Participant

Third Party Entities

Joint Committee decides the amount
Each Government issues the credit

Submission of
Proposed
Methodology

Approval of
Proposed
Methodology

Development
of PDD

Validation

Registration

Monitoring

Verification

Issuance
of credits

JCM Methodology
Demonstration Study (DS)

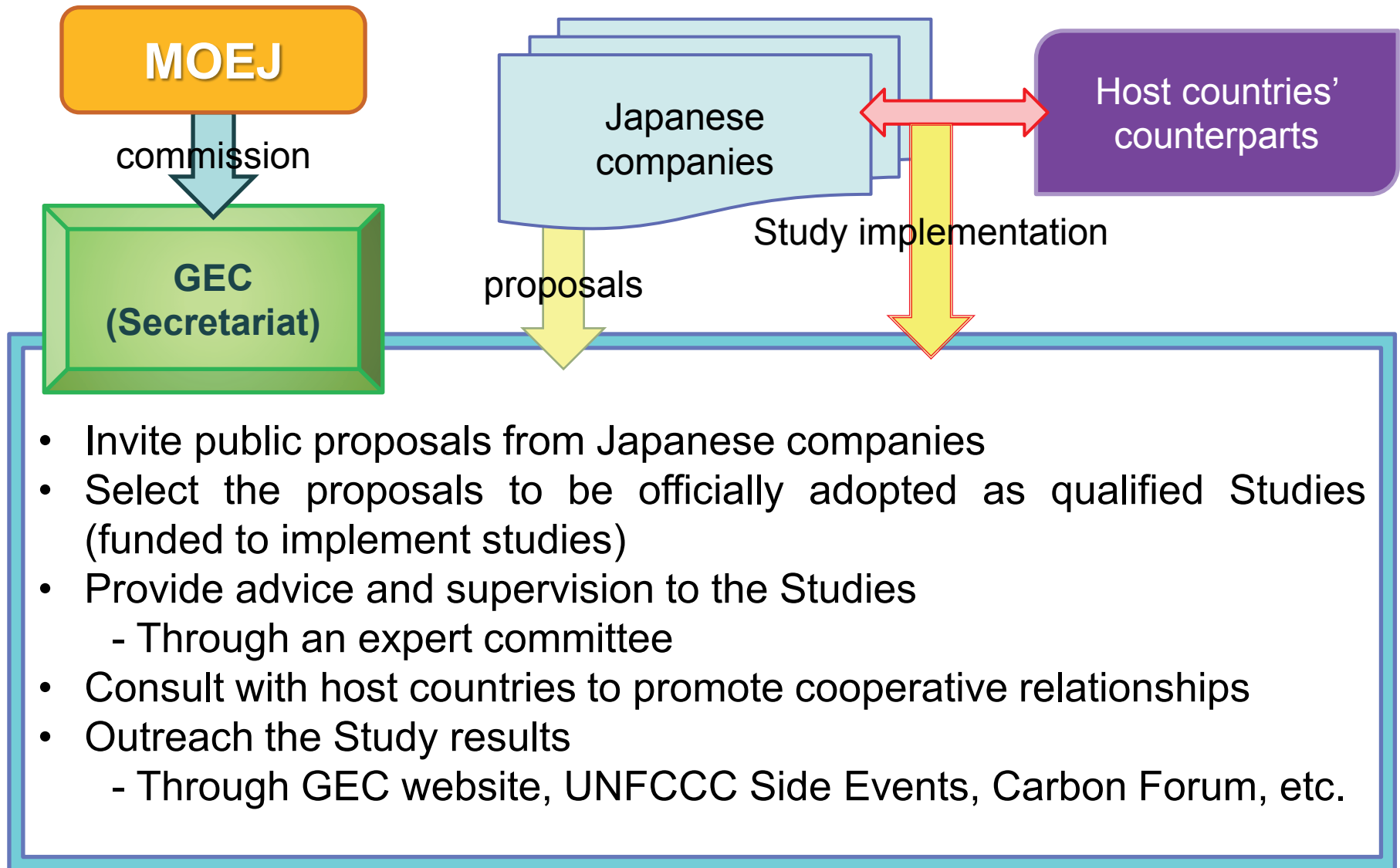
JCM Feasibility Study (FS)

JCM Project Planning Study (PS)

Financing Programme for
JCM Model Projects

Project developers can use
these Study Programme and
Financing Programme for
developing JCM Projects.

Overview of Study Programme for JCM Project (1/2)



Overview of Study Programme for JCM Project (2/2)

Objectives:

- To develop **JCM methodology**
- To make **JCM Project Design Document (PDD)**
- To accumulate knowledge and experience

- JCM Project Planning Study (PS)
 - ➔ To finalize concrete project plan which is considering finance, construction, operation and MRV plan
 - ➔ To assess the possibility of each project to be implemented under the JCM

- JCM Methodology Demonstration Study (DS)
 - ➔ To develop practical JCM methodologies whose applicability have been demonstrated by model projects in operation

- JCM Feasibility Study (FS)
 - ➔ To find possible JCM projects, with the consideration of concrete project planning for future implementation
 - ➔ To assess the feasibility of each project to be implemented under the JCM

Overview of JCM Methodology, Monitoring Plan and Monitoring Report

(Subject to further consideration and discussion with host countries)

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)

Approved Methodology Document

1. Title of the methodology 1.1. Title of the methodology 1.2. Version 1.3. Date 1.4. Issued by 1.5. Approved by 1.6. Validity 1.7. Revision 1.8. Other information	2. Allocation of responsibility 2.1. Allocation of responsibility 2.2. Allocation of responsibility 2.3. Allocation of responsibility 2.4. Allocation of responsibility 2.5. Allocation of responsibility 2.6. Allocation of responsibility 2.7. Allocation of responsibility 2.8. Allocation of responsibility 2.9. Allocation of responsibility 2.10. Allocation of responsibility	3. Calculation method and formula 3.1. Calculation method and formula 3.2. Calculation method and formula 3.3. Calculation method and formula 3.4. Calculation method and formula 3.5. Calculation method and formula 3.6. Calculation method and formula 3.7. Calculation method and formula 3.8. Calculation method and formula 3.9. Calculation method and formula 3.10. Calculation method and formula
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Monitoring Spreadsheet

1. Monitoring and input data after project start											
Monitoring point no.	Parameters	Description of data	Monitored Values	Units	Monitoring option	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments		
(1)	PO _i	Project production volume at the HPF during the period of year y	20,000	y	Option C	monitored data	Collecting electricity consumption data with verified calibrated weighing scale and issuing it to an spread sheet electronically. Verified scales are installed and they are calibrated once a year. Verification and calibration shall meet international standard on corresponding monitoring devices. Project deputy managers should check the input data with logbooks every 6 months.	once a month			
(2)	PPC _i	Project fossil fuel consumption by the HPF	500	y	Option B	purchase records	Collecting the purchase amount from retailer invoices and issuing it to an spread sheet manually. Verified scales are installed and they are calibrated once a year. Verification and calibration shall meet international standard on corresponding monitoring devices. Project deputy managers should check the input data with invoices every 6 months.	once a month			
(3)	PEC _i	Project electricity consumption by the HPF	500	MWh/y	Option C	monitored data	Collecting electricity consumption data with verified smart electricity monitoring devices and issuing it to an spread sheet manually. Verified monitoring devices are installed and they are calibrated once a year. Verification and calibration shall meet international standard on corresponding monitoring devices.	continuous			

2. CO2 emission reductions											
CO2 emission reductions											
Units											
22,891 tCO2/y											

3. Monitoring option											
Option A	Based on public data which is measured by entities other than the project participants (Data used: publicly recognized data such as statistical data and specifications)										
Option B	Based on the amount of transaction which is measured directly using metering instruments (Data used: commercial evidence such as invoices)										
Option C	Based on the actual measurement using metering instruments (Data used: measured values)										

Monitoring Report Sheet

Monitoring Structure Sheet

Monitoring Plan Sheet

Cells for data & information input

PDD and Monitoring Plan

(Subject to further consideration and discussion with host countries)

■ 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)

PDD

Monitoring Structure

Monitoring Plan

Responsible personnel		Role	
Project Manager		Responsible for project planning, implementation, monitoring results and reporting.	
Project Deputy Managers		Appointed to be in charge of approving the archived data after being checked and corrected when necessary.	
Operators		Appointed to be in charge of monitoring structure (data collection and storage), including	

Monitoring point No.	Parameters	Description of data	Estimated Values	Units	Monitoring option	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments
(1)	PO ₂	Project production volume at the HPIF during the period of year y	20,000	y	option C	monitored data	- Collecting electricity consumption data with verified/calibrated weighing scale and inputting it to an spread sheet electrically. - Verified scales are installed and they are calibrated once a year. - Verification and calibration shall meet international standard on corresponding monitoring devices. - Project deputy managers double check the input data with logbooks every 6 months	once a month	
(2)	PFC ₂	Project fossil fuel consumption by the HPIF	500	y	option B	purchase records	- Collecting the purchase amount from retailer's invoices and inputting it to an spread sheet manually. - Project deputy managers double check the input data with invoices every 6 months	once a month	
(3)	PEC ₂	Project electricity consumption by the HPIF	500	Wh/y	option C	monitored data	- Collecting electricity consumption data with verified/calibrated electricity monitoring devices and inputting to an spread sheet electrically. - Verified monitoring devices are installed and they are calibrated once a year. - Verification and calibration shall meet international standard on corresponding monitoring devices.	continuous	

2. CO2 emission	
CO2 emission	
Monitoring option	
Option A	B
Option B	C
Option C	D

Other necessary information on parameters to be monitored are:

- Monitoring options
- Source of data
- Measurement methods and procedures
- Monitoring frequency

JCM Methodology

■ 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.

Eligibility criteria	• A “check list” will allow easy determination of eligibility of a proposed project under the JCM and applicability of JCM methodologies to the project.
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.

Eligibility Criteria of the JCM

(Subject to further consideration and discussion with host countries)

- 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

Basic Concept for Crediting under the JCM

In the JCM, emission reductions to be credited are defined as the deference between “reference emissions” and project emissions.

There are two conservative ways of calculation of emission reductions or removals in the JCM.

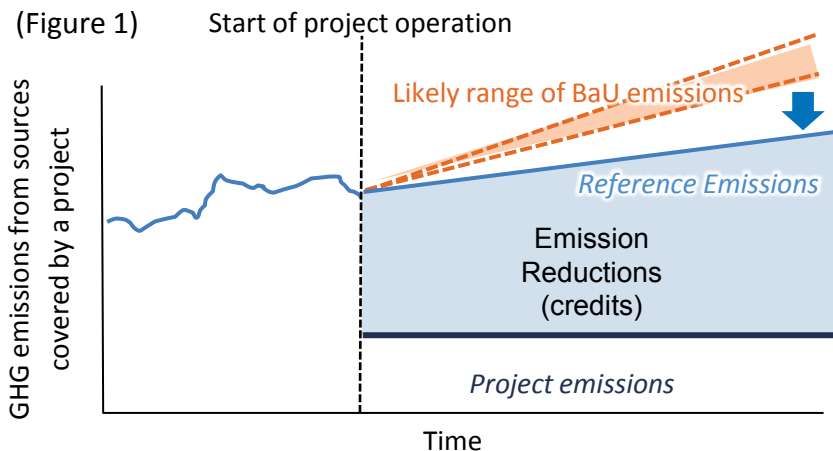
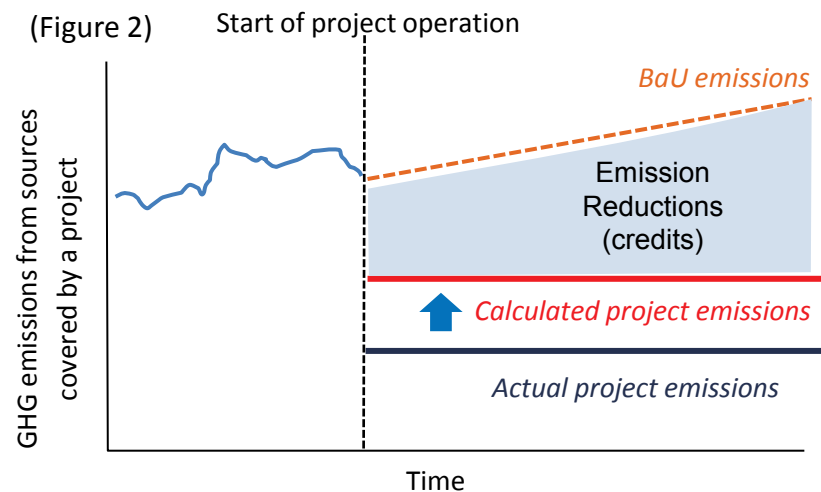


Figure 1 shows an example of a conservative way of calculation of emission reductions. The reference emissions here are set below the likely range of business-as-usual (BAU) emissions – which represent plausible emissions in providing the same outputs or service level of the project under the mechanism – by, for instance, discounting certain percentage points from BaU emissions. In this case, emission reductions to be credited are calculated as the difference between the reference emissions and the project emissions.



In another example showed in Figure 2, project emissions are calculated larger than actual project emissions by applying conservative default values for parameters to calculate project emissions instead of monitoring actual values. In this case, emission reductions to be credited are calculated as the deference between the BaU emissions and the project emissions calculated in a simple and conservative manner.

All ideas are subject to further consideration and discussion with host countries

JCM Feasibility Studies in FY2013

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

- ◆ -- JCM Project Planning Study (PS)
- -- JCM Demonstration Study (DS)
- △ -- JCM Feasibility Study (FS)

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

Bangladesh:

- △ High-efficiency rice husk based cogeneration
- △ Solar power generation with long-life storage battery in non-electrified regions

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

Kenya:

- △ Expansion of geothermal project

Myanmar:

- △ Geothermal binary power generation
- 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 IC technology
- Indonesia (and Myanmar):
- △ Solar-diesel hybrid power generation

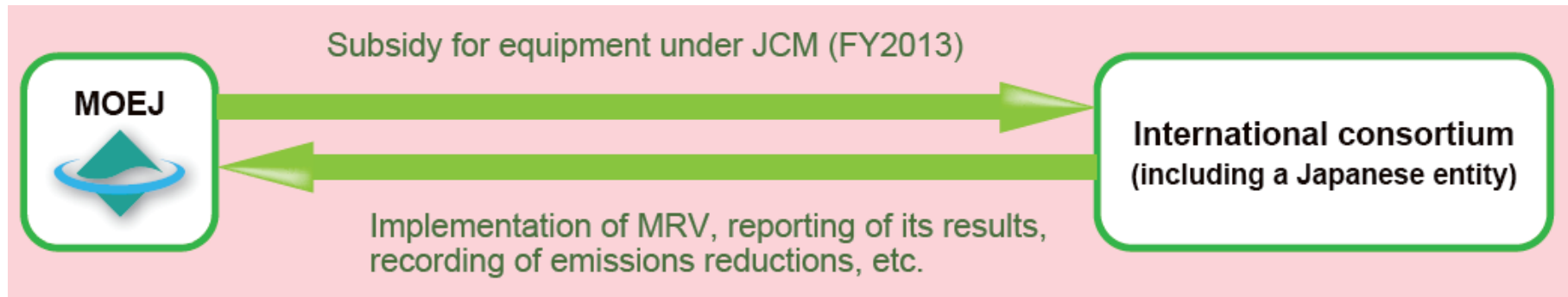
Sri Lanka:

- △ Sustainable biomass-based power generation

Financing Programme for JCM Model Projects

Objectives:

- To reduce CO2 emissions in developing countries by utilizing leading low carbon technologies, products, systems, services, and infrastructure of Japanese companies and others based on the application of the JCM.
- The JCM should be enhanced, through this Financing Programme, by accumulating knowledge related to the measurement, reporting and verification (MRV) of CO2 emission reduction and its utilization.



Note: A Japanese entity shall act as the representative of an international consortium, in charge of accounting and other administrative duties related to the financing programme.

Reference:

Results of each Feasibility Studies and other studies are available on GEC website.

(<http://gec.jp>).

JCM relevant documents and JCM partner country information are available on New Mechanisms Information Platform.

(<http://www.mmechanisms.org/e/initiatives/index.html>).

Global Environment Centre Foundation

GEC is committed to conservation of the global environment by supporting UNEP/DTIE/ETC's activities for urban environmental management, and promoting partnerships between Japan and developing countries.

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What's New ?

- Bandung Eco-town Evaluation Workshop (23 February 2012)
- Penang Eco-Town Workshop (23 February 2012)
- Publication: "MOE/GEC Feasibility Study Programme on New Mechanism and CDM in 2011" (28 November 2011)
- Publication: "CDM/JI Manual for Project Developers and Policy Makers - 2011" (28 November 2011)
- Official Side Event will be held at 18:30, Tue. 29 Nov. on the occasion of the UNFCCC COP17 at Durban, South Africa (24 November 2011)
- Publication: "GEC Newsletter No.30" (25 October 2011)
- Publication: "Annual Report 2010" (2 September 2011)
- Ha Long Bay Project (JICA Grass Roots Project) - Organized a mangrove planting event - (30 August 2011)

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NETT21
GEC Environmental Technology Database

GESAP
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Joint Crediting Mechanism (JCM)

About JCM

Proposed Elements of the Joint Crediting Mechanism (JCM)

To facilitate 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.

To appropriately evaluate contributions to GHG emission reductions or removals from developed countries in a quantitative manner, through mitigation actions implemented in developing countries and use those emission reductions or removals to achieve emission reduction targets of the developed countries.

To contribute to the ultimate objective of the UNFCCC by facilitating global actions for emission reductions or removals.

Diagram:

```

graph LR
    Japan[Japan] -- "Leading Low Carbon Technologies, etc., and implementation of mitigation actions" --> HostCountry[Host Country]
    HostCountry -- "MRV" --> Credits[Credits]
    Credits -- "Used to achieve Japan's emission reduction target" --> Japan
    HostCountry -- "JCM Project" --> GHG[GHG emission reductions / removals]
    GHG -- "MRV Methodologies will be developed by the Joint Committee" --> Credits
  
```

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Thank you for your attention!