

Introduction of the MOEJ/GEC Programmes: Study Programme for JCM Projects, and Financing Programme for JCM Model Projects, towards the Development of JCM Projects and Methodologies

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Global Environment Centre Foundation (GEC)
as the Secretariat of the Programmes

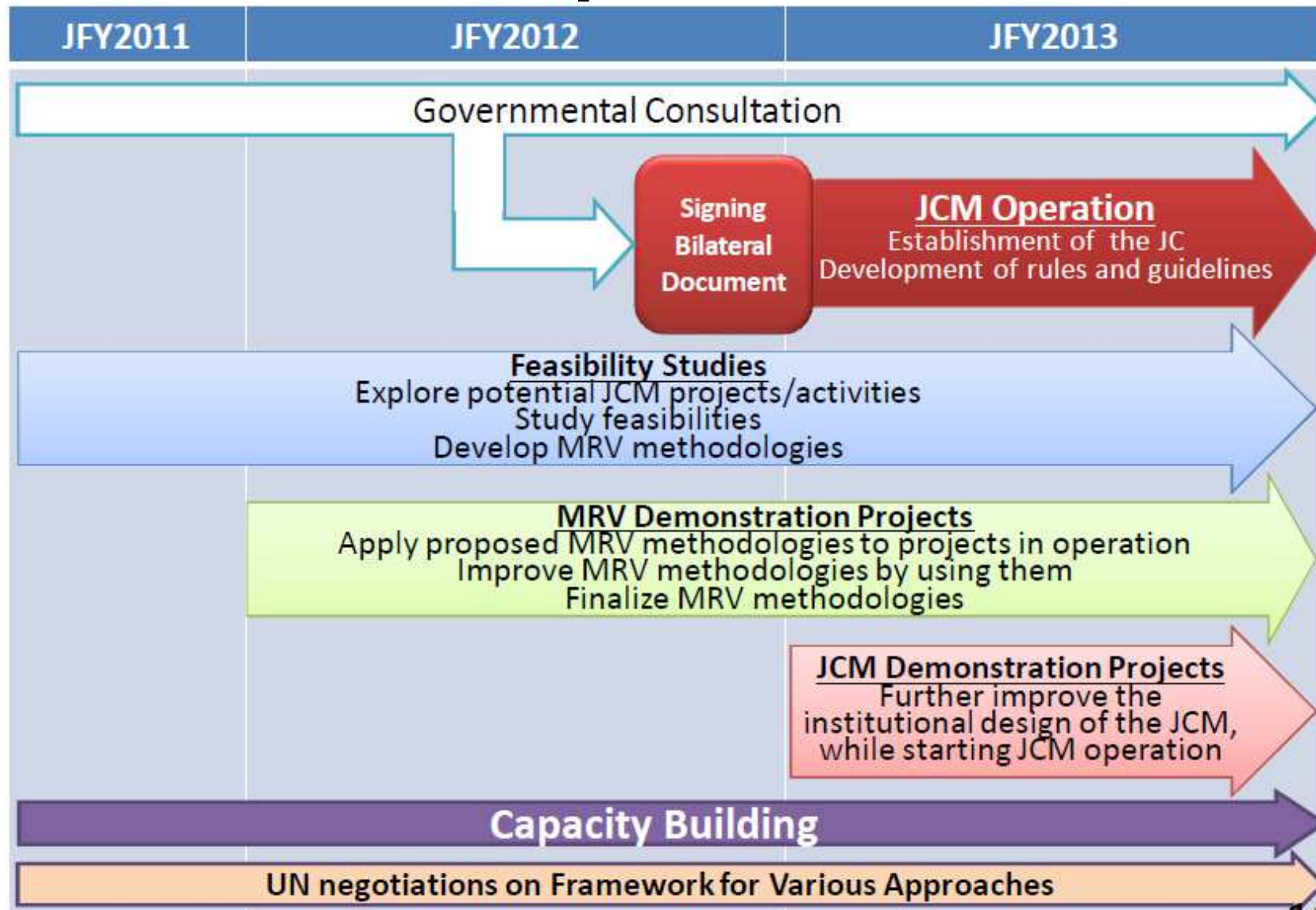


Background

JCM:

- Joint Crediting Mechanism (JCM)
- New mechanism proposed by the Government of Japan
- Global Environment Centre Foundation (GEC) has been the Secretariat of MOEJ's JCM and CDM/JI Feasibility Study Programme since 1999
- GEC is also the Secretariat of MOEJ's Financing Programme for JCM Model Projects in 2013

Roadmap for the JCM



JCM Feasibility Studies in FY2012

Mongolia:

- ◆ Geo-Thermal Heat Pump for Heating
- ◆ High-Efficient Heat Only Boilers (HOBs)

India:

- ◆ Bagasse-based Power Generation w/ Waste Heat Utilization

Moldova:

- ◆ Biomass Boiler Heating using Agricultural Waste as Fuel

Sri Lanka:

- ◆ Biomass-based Thermal Energy Generation

Lao PDR:

- ◆ Efficient Buses and Provision of Good Services
- ◇ Mechanical Biological Treatment (MBT) of MSW, /Landfill Gas (LFG) Capture, Flaring and Utilization

Indonesia:

- ◇ Solar-Diesel Hybrid Power Generation to Stabilize PV Power Generation
- ◇ Prevention of Peat Degradation through Groundwater Management and Rice Husk-based Power Generation
- ◇ REDD+ for Conservation of Peat Swamp Forest, and Biomass-based Power Generation using Timber Mill Waste to Process Indigenous Trees derived from Conserved Forest

Thailand:

- ◆ Bagasse-based Cogen. at Sugar Mill
- ◆ Construction of MRT System
- ◆ Energy Savings through BEMS
- ◆ Waste Heat Recovery System w/ Cogen.
- ◇ Electronic Gate to Int. Trade Port to Improve Port-related Traffic Jam

Viet Nam

- ◆ Integrated EE Project at Beer Factory
- ◇ Biogas-based Cogen. w/ Digestion of Methane from Food/Beverage Factory Wastewater
- ◇ Improvement of Vehicle Fuel Efficiency through Introduction of Eco-Drive Management System
- ◇ REDD+ through Forest Mgmt and Biomass-based Power Gen. using Timber Industry Waste

Viet Nam, and Indonesia

- ◇ MRT System

Cambodia:

- ◆ Methane Recovery and Utilization from Livestock Manure using Bio-digesters
- ◇ Small-scale Biomass Power Generation w/ Stirling Engine
- ◇ REDD+ in Tropical Lowland Forest

◆-- MRV Demonstration Study (DS)

◇-- BOCM Feasibility Study (FS)

EE= Energy Efficiency

MRT= Mass Rapid Transit

Mexico:

- ◆ Small-scale Wind Power Generation with Remote Monitoring System

Colombia:

- ◇ Geothermal Power Generation under Suppressed Demand

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

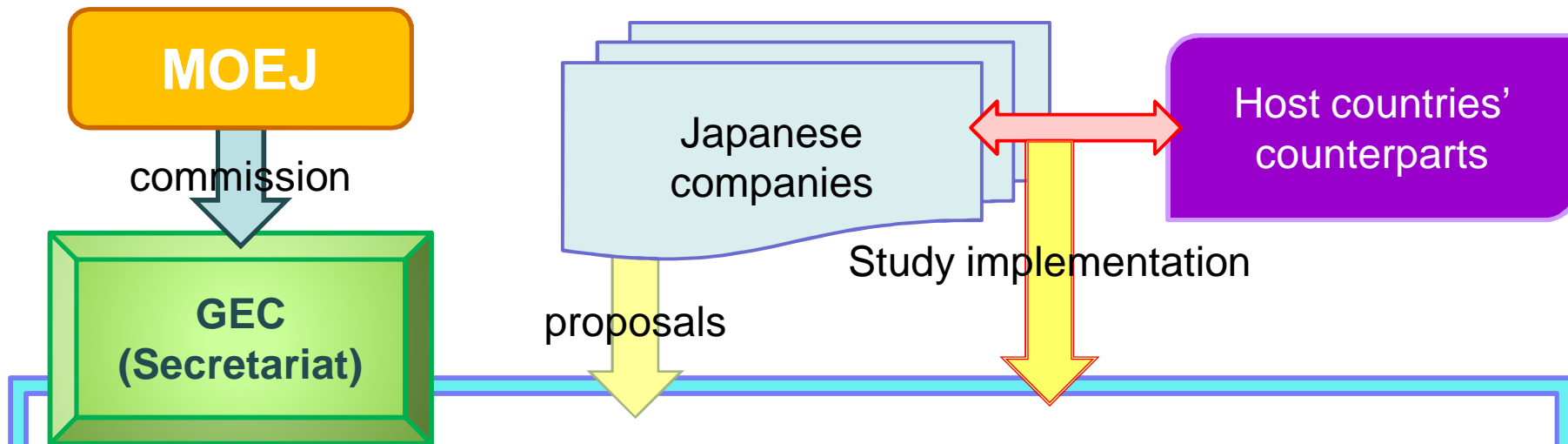
Indonesia:

- ◆ 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

Overview of FS Programme



- Invite public proposals from Japanese companies
- Select the proposals to be officially adopted as qualified Studies (funded to implement studies)
- Provide advice and supervision to the Studies
 - Through an expert committee
- Consult with host countries to promote cooperative relationships
- Outreach the Study results
 - Through GEC website, UNFCCC Side Events, Carbon Forum, etc.

Results of FS Programme 2012

- Simple and practical monitoring methodologies (draft ver.) have been developed.
 - (example) Installing heat meter and data logger for easy monitoring
 - (example) Setting default values of CO₂ EF and boiler efficiency by actual measurement
- Emission reductions were measured and reported by local project participants and verified by local verifiers.
 - Necessary of capacity building for local verifier

Purposes of JCM FS Programme 2013

- 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 practicality have been checked by existing projects under operation

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

JCM Methodology

■ Key Features of the JCM methodology

- The 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)	<ul style="list-style-type: none"> • 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.

Basic Concept of Eligibility Criteria in JCM methodology

(Subject to further consideration and discussion with host countries)

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.

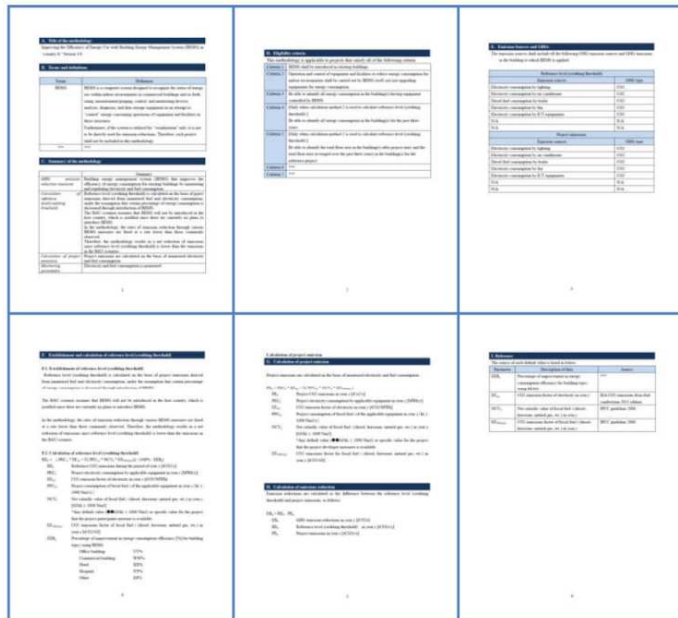
Overview of JCM Methodology, Monitoring Plan and Monitoring Report

(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



Approved Methodology Spreadsheet

Monitoring period	Monitoring point No.	Parameters	Description of data	Estimated Values	Units	Monitoring system	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments
(1)	PO ₁	Project production volume at the HPP during the period of year 1	20,000 t/y	tonnes	Option C	monitored data	<ul style="list-style-type: none"> -Collecting electricity consumption data with an approved electronic meter and reporting it to an approved electricity supplier once a year -Verification and calculation shall meet international standard on corresponding monitoring device -Project duty managers shall check the input data with logarithm every 3 months 	once a year	once a month	
(2)	FFC ₁	Project fossil fuel consumption at the HPP	500 t/y	tonnes	Option B	purchase records	<ul style="list-style-type: none"> -Checking the purchase amount from retailer in order and reporting it to an approved meter manually -Project duty managers shall check the input data with logarithm every 3 months 	once a year	once a month	
(3)	PEC ₁	Project electricity consumption at the HPP	500 t/y	kWh	Option C	monitored data	<ul style="list-style-type: none"> -Collecting electricity consumption data with an approved electronic monitoring device and reporting it to an approved electricity supplier once a year -Verification and calculation shall meet international standard on corresponding monitoring device 	once a year	continuous	

Responsible personnel		Role
Project Manager		Responsible for project planning, implementation, monitoring results and reporting. Appointed to be in charge of approving the

1. Monitoring and input data after project start										
Monitoring point No.	Parameters	Description of data	Estimated Values	Units	Monitoring system	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments	
(1)	PO ₁	Project production volume at the HPP during the period of year 1	20,000 t/y	tonnes	Option C	monitored data	<ul style="list-style-type: none"> -Collecting electricity consumption data with an approved electronic meter and reporting it to an approved electricity supplier once a year -Verification and calculation shall meet international standard on corresponding monitoring device -Project duty managers shall check the input data with logarithm every 3 months 	once a year	once a month	
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2. CO2 emission reductions	
CO2 emission reductions	22,851 tCO2e

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.

PDD

Monitoring Structure

Monitoring Plan

Roles and responsibilities of personnel for monitoring should be described

Cells for data input (ex ante)

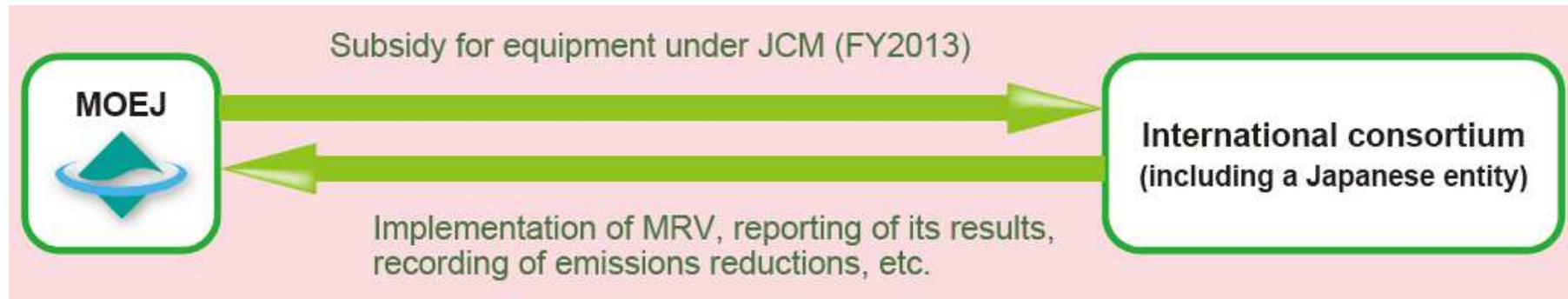
Other necessary information on parameters to be monitored are:

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

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
	Appointed to be in charge of monitoring structure (data collection and storage), including

Monitoring point No.	Parameter	Description of data	Forecasted values	Unit	Monitoring option	Source of data	Measurement methods and procedures	Monitoring frequency	Other comments
11	PH ₂	Project production volume at the JCR during the year of year	100,000	t	Option C	Internal data	Collecting monitoring data from internal data with the same data collecting table and reporting it to an external agency electronically	Once a year	CO2 & CH4
12	PH ₂	Project fuel fuel consumption by the JCR	500	t	Option B	Internal data	Collecting the monitoring data from internal data and reporting it to an external agency electronically	Once a month	
13	PH ₂	Project electricity consumption by the JCR	500	MWh	Option B	Internal data	Collecting the monitoring data from internal data with the same data collecting table and reporting it to an external agency electronically	Once a month	

Overview of Financing Programme for JCM Model Projects



Objectives of the Financing Programme:

- 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.

Details of JCM Financing Programme

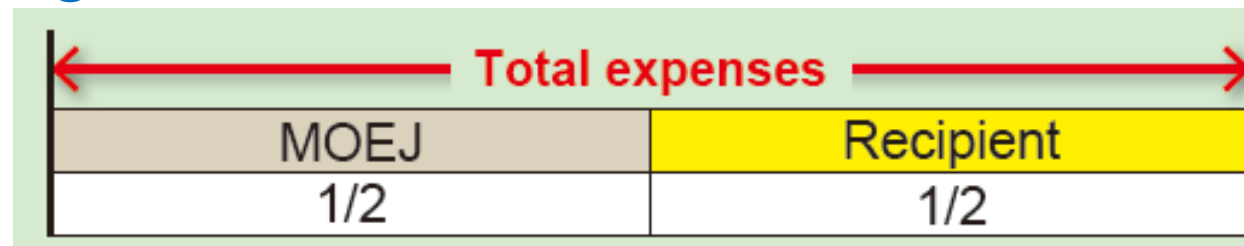
The Financing Programme supports **CO2 emission reduction projects utilizing leading low carbon technologies, etc.** of Japanese companies and others in developing countries under bilateral JCM consultations with Japan. The emission reduction of the projects shall be MRVed.

The 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 MOEJ.

- When the JCM is officially launched between Japan and the countries where the financially supported project is implemented, recipients of the financial support shall request for registration of the supported project as a JCM project.
- The recipients shall conduct MRV of CO2 emission reductions resulted from the operation of the introduced equipment, and report the results to the MOEJ for a specified period.
- The half of JCM credits issued from emission reductions achieved by the supported project shall be delivered to the MOEJ.
- The recipients shall be international consortiums which includes Japanese entities (registered as entities). The international consortium is defined as an organisation which consists of Japanese entities and international partners and has the capacity to efficiently implement the project.
 - Note: A Japanese entities shall act as the representative of an international consortium, in charge of accounting and other administrative duties related to the Financing Programme.

Details of Financial Support under the Programme

1. **Recipient:** International consortium including a Japanese entity
2. **Scope of the financial support:** Facilities which reduce energy originated CO2 as well as construction cost for installing those facilities
3. **Financing Ratio:**



4. **Budget (for FY2013):** 1.2 billion JPY
(approx. USD 12 million)

JCM Model Projects in 2013

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.

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.

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. Since the new process utilizes waste as main materials and grew and pressing process, and does not require the use of fossil fuel, GHG emissions will be reduced.

Viet Nam:

◆ 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.

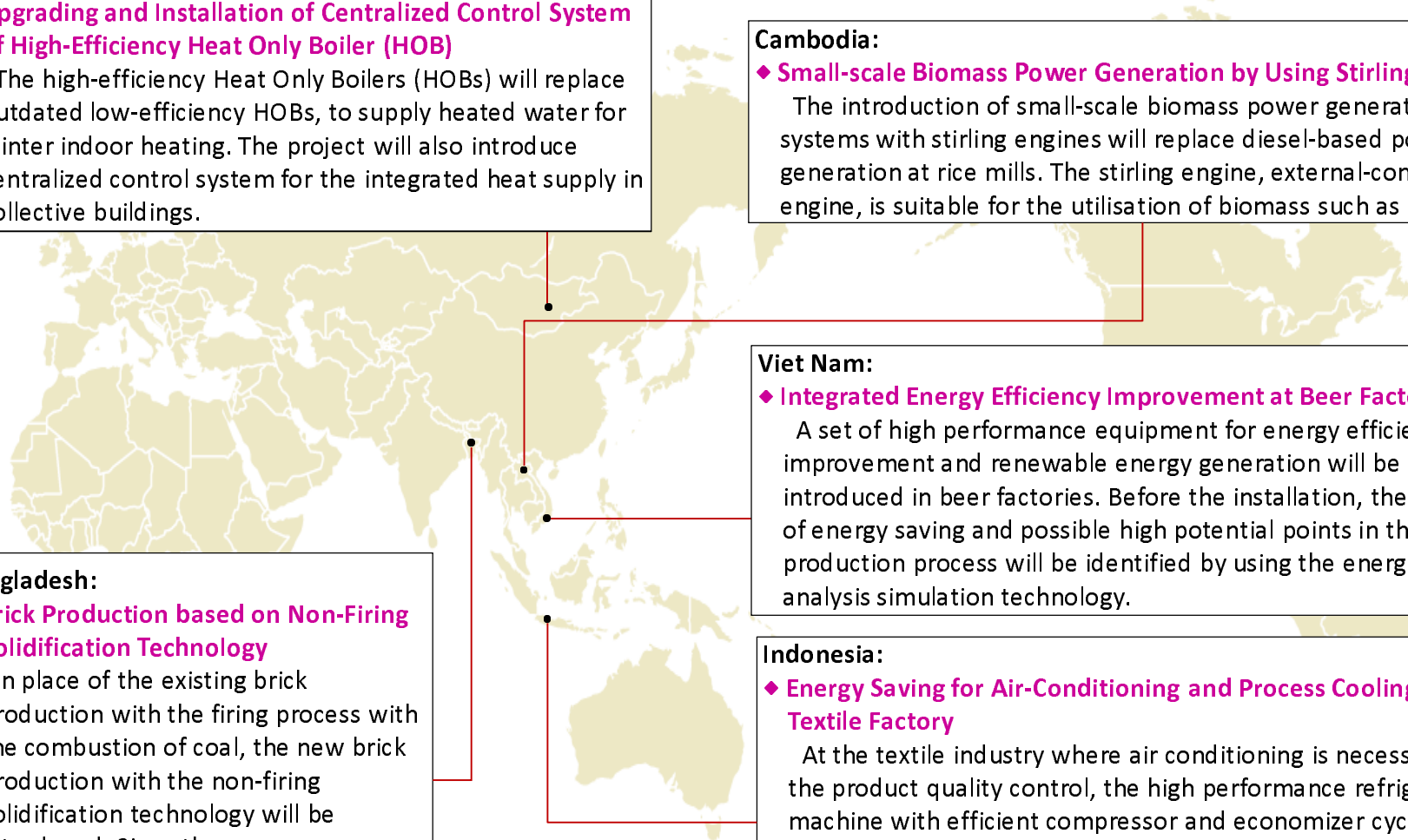
Indonesia:

◆ Energy Saving for Air-Conditioning and Process Cooling at Textile Factory

At the textile industry where air conditioning is necessary for the product quality control, the high performance refrigerating machine with efficient compressor and economizer cycle will be introduced.

◆ Energy Savings at Convenience Stores

High-efficiency chillers with natural (CO₂) refrigerant, inverter-controlled air-conditioners, LED lights, and roof-top solar power systems will be installed in the convenience stores.



Conclusion

- The JCM is launched for real operation in 2013.
 - FS: to find possible JCM projects, with the assessment of its feasibility
 - DS: to establish workable JCM methodologies
 - PS: to complete project planning, including financial plan, MRV plan, and EPC plan
 - Financial support for JCM Model Projects: to promote the implementation of real projects
- Phased approach is established, and enables wide participation of private entities in the JCM.
 1. Development of JCM methodologies applicable to JCM projects → Approval by the Joint Committee
 2. Development of JCM PDD → Validation
 3. Financial support for JCM projects → Registration

*Thank you very much
for your attention!*

<http://grec.jp>

For more information,
please visit GEC website!!

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.

MENU

- About GEC
- Activities
 - Support for UNEP/DTIE/ETC
 - International Cooperation in Developing Countries
 - Contribution to Climate Change Mitigation**
 - Human Resource Development in Developing Countries
 - Dissemination of EMS
 - Public Relations and Education
 - Activities Archives

What's New ?

- Bandung Eco-town Evaluation Workshop (23 February 2012)
- Penang Eco-Town Workshop (23 February 2012)
- Publication: "MOEJ/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 UNEFCCC 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)

News Archives >>

NETT21 GEC Environmental Technology Database

GESAP Website on Water and Sanitation



Contribution to Climate Change Mitigation