

*MGDG/GEC/OECC Workshop on Low Carbon Technologies –NAMAs & JCM–
on 3 Dec. 2013, in Ulaanbaatar, Mongolia*

Introduction of the sessions 4 & 5: JCM methodology development

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*All ideas, including information cited from the material issued by the Government of Japan,
are subject to further consideration and discussion.*

Objectives of the sessions 4 & 5

- To discuss methodology development process under the JCM by introducing methodologies currently under development
- To discuss issues, barriers during methodology development process, and propose possible solutions
- To discuss future opportunities for project implementation in Mongolia under the JCM: possible means of promotion

JCM Programme under MOEJ

- **Financing Programme for JCM Model Projects:**
MOEJ will finance part of an investment cost (up to the half), on the premises that recipients seek to deliver JCM credits (half of issued) to the Government of Japan.
- **Study Programme for JCM Projects:**
 - **JCM Project Planning Studies (PS):** for development of a Model Project in the next fiscal year at the earliest.
 - **JCM Methodology Demonstration Studies (DS):** to check the practicality of draft methodologies by applying existing projects under operation.
 - **JCM Feasibility Studies (FS):** to promote potential JCM projects and to survey their feasibilities.
- **Capacity Building Programme for the JCM**

Source: Cited from Slide #36, Government of Japan “Recent Development of the JCM” (Sept. 2013)

Overview of JCM Model Projects and Planning/Demonstration/Feasibility Studies in 2013

Mongolia:

- Upgrading and Installation of Centralized Control System of High-Efficiency Heat Only Boiler (HOB)
- ◆ 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 Model Project

◆ -- JCM Project Planning Study (PS)

■ -- JCM Methodology 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:

- Brick Production based on Non-Firing Solidification Technology
- △ High-efficiency rice husk based cogeneration
- △ Solar power generation with long-life storage battery in non-electrified regions

Viet Nam:

- Integrated Energy Efficiency Improvement at Beer Factory
- ◆ 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

Sri Lanka:

- △ Sustainable biomass-based power generation

Cambodia:

- Small-scale Biomass Power Generation by Using Stirling Engines

Indonesia:

- Energy Saving for Air-Conditioning and Process Cooling at Textile Factory
- Energy Savings at Convenience Stores
- Energy Efficient Refrigerants to Cold Chain Industry
- ◆ 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

Presentations of Cases

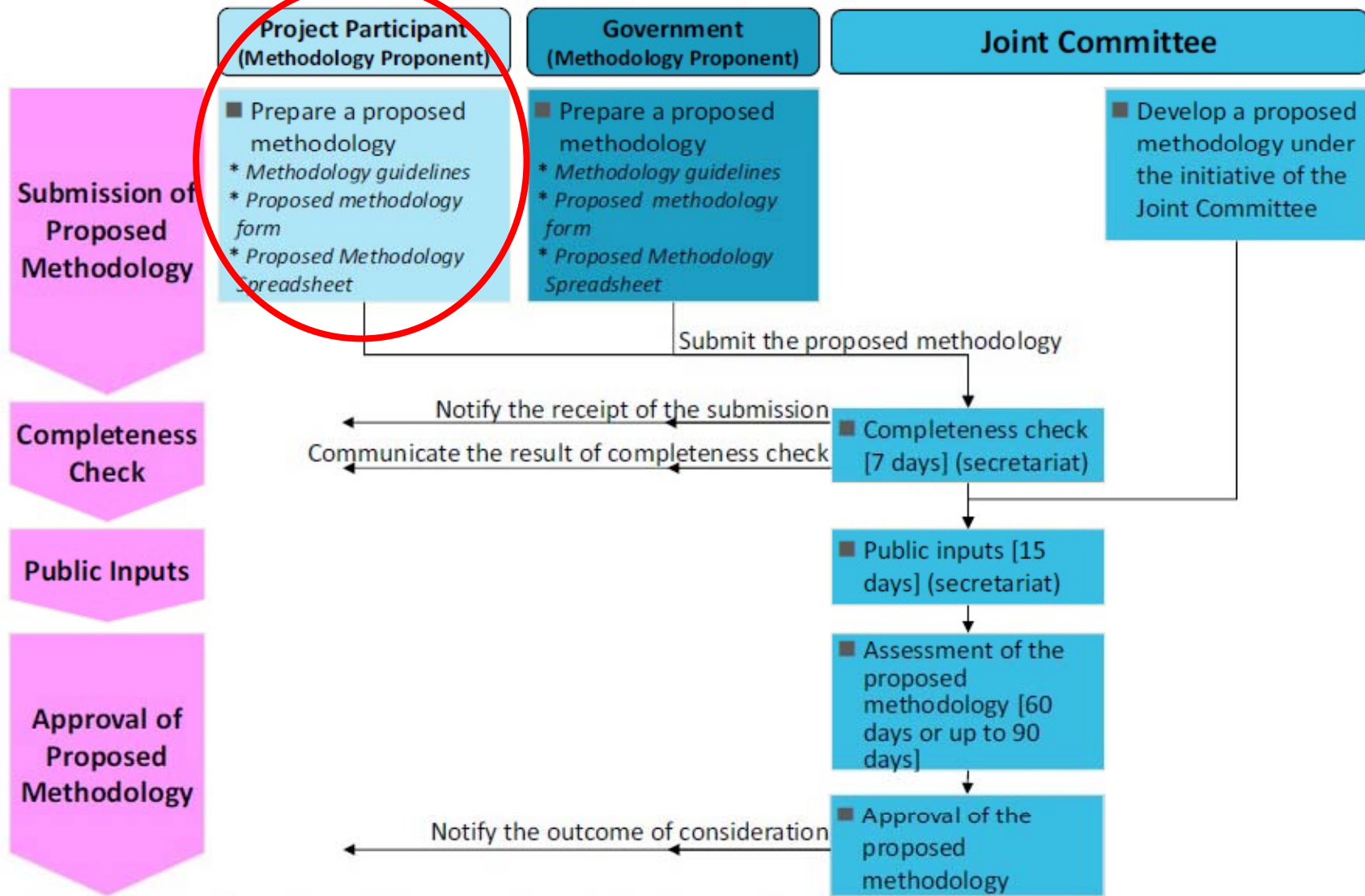
- **Case #1**: PS “10MW-scale **solar power** plant and rooftop solar power system” (Shimizu Corporation)
- **Case #2**: Model Project “Upgrading and Installation of Centralized Control System of **High-Efficiency Heat Only Boiler (HOB)**”, and DS “Centralization of heat supply system by installation of high efficiency heat only boiler (HOB)” (Suuri-Keikaku)
- **Case #3**: FS “Energy conservation at **cement plant**” (Taiheiyo Engineering Corporation)

Project Cycle of the JCM

<p>Can be conducted by the same TPE</p> <p>Can be conducted simultaneously</p>	<p>Project Participant (PP) / Each Government Joint Committee (JC)</p>	<p>Submission of <u>Proposed Methodology</u></p>
	<p>Joint Committee (JC)</p>	<p>Approval of Proposed Methodology</p>
	<p>Project Participant (PP)</p>	<p>Development of PDD</p>
	<p>Third Party Entity (TPE)</p>	<p>Validation</p>
	<p>Joint Committee (JC)</p>	<p>Registration</p>
	<p>Project Participant (PP)</p>	<p>Monitoring</p>
	<p>Third Party Entity (TPE)</p>	<p>Verification</p>
	<p>Joint Committee (JC) decides the amount Each Government issues the credit</p>	<p>Issuance of credit</p>

Source: Modification from Slide #8, Government of Japan “Recent Development of the JCM” (Sept. 2013)

Methodology Development Procedure of the JCM



Note: Asterisk (*) indicates documentation relevant for each step of the procedure

Challenges for JCM methodology development

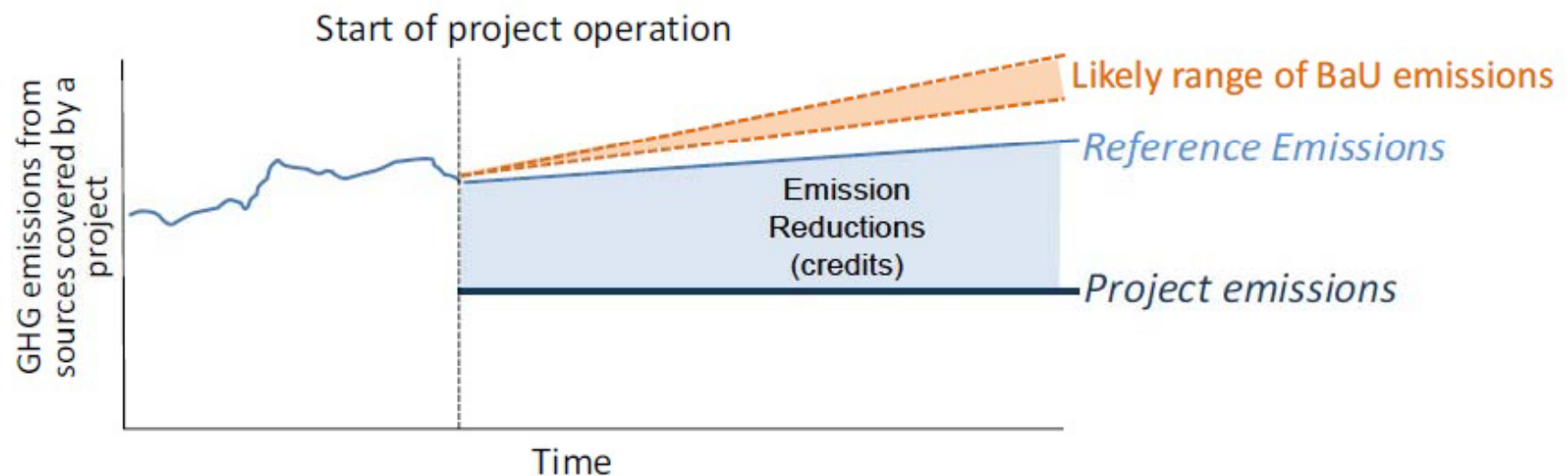
- Identification of the basis of “reference emissions” calculation
 - What equipment is recognised as “reference” equipment?
 - Which value(s) is approved to use in “reference emissions” calculation?
- Setting of default value(s)
 - Which value(s) is approved by the JC to use in emission calculations?
- Creation of the list of “eligibility criteria”
 - How can such criteria ensure to lead the additional emission reductions, and to ensure the global net reductions?

Addendum:

Reference for Discussion in the Sessions 4&5

Basic Concept for Crediting under the JCM

- 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.

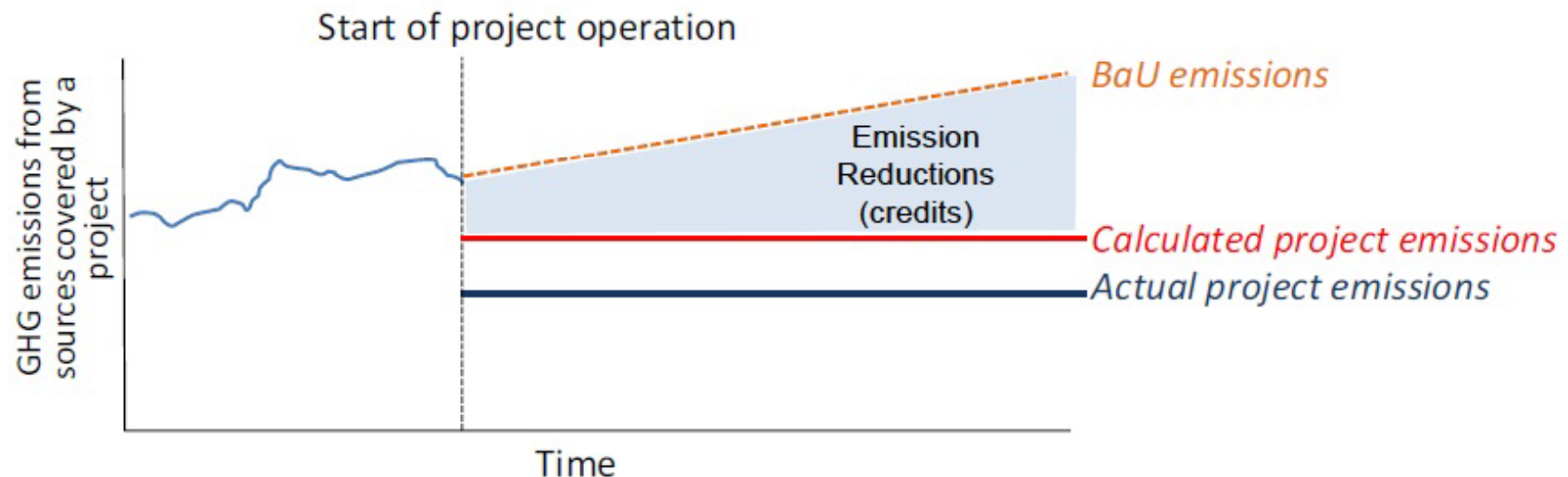


Crediting Threshold

- 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 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.

Addendum: ways to realize net reduction

- 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.



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 the project participants.

Eligibility criteria	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Premade spreadsheets will help calculate GHG emission reductions/removals automatically by inputting relevant values for parameters, in accordance with methodologies.

Thank you!

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