

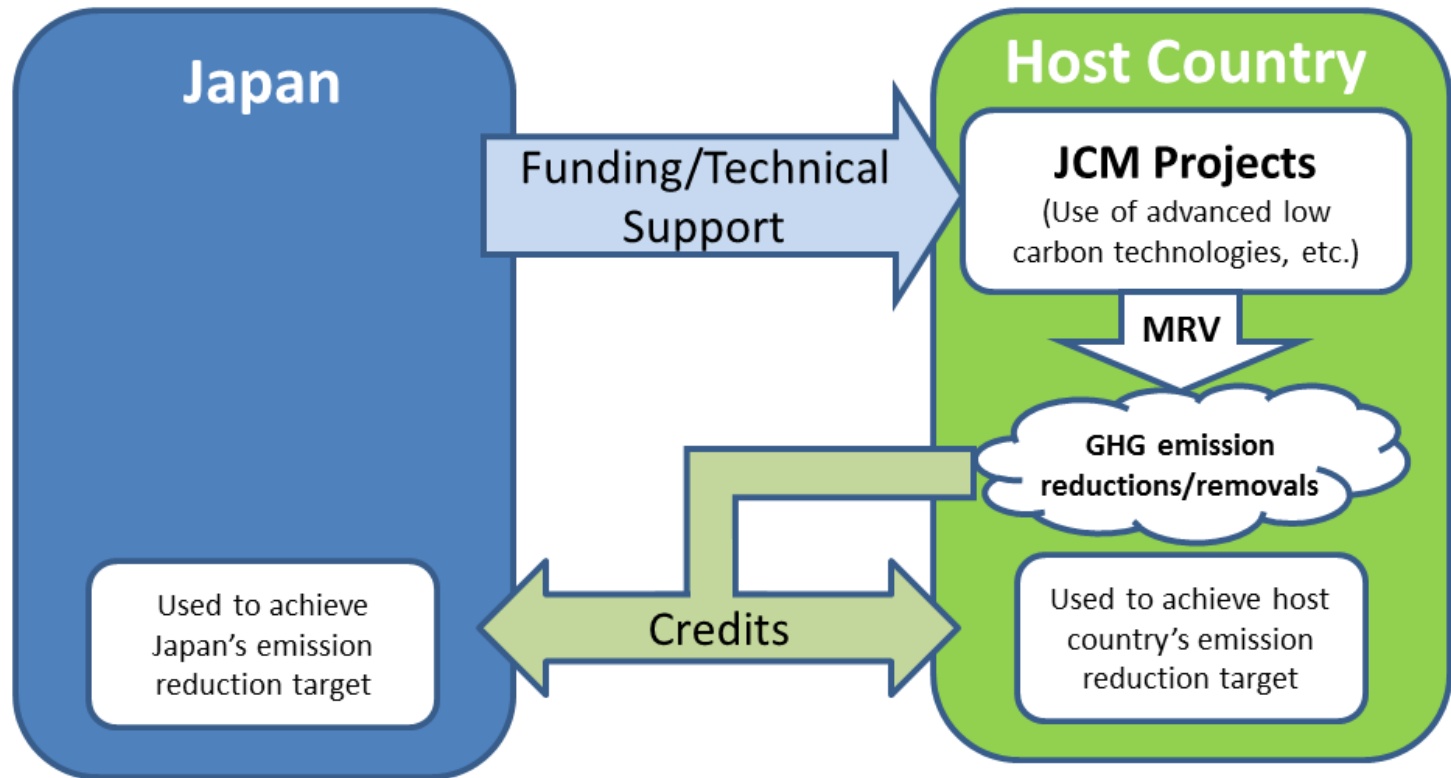
JCM Project Development Cycle

24-25 August 2016

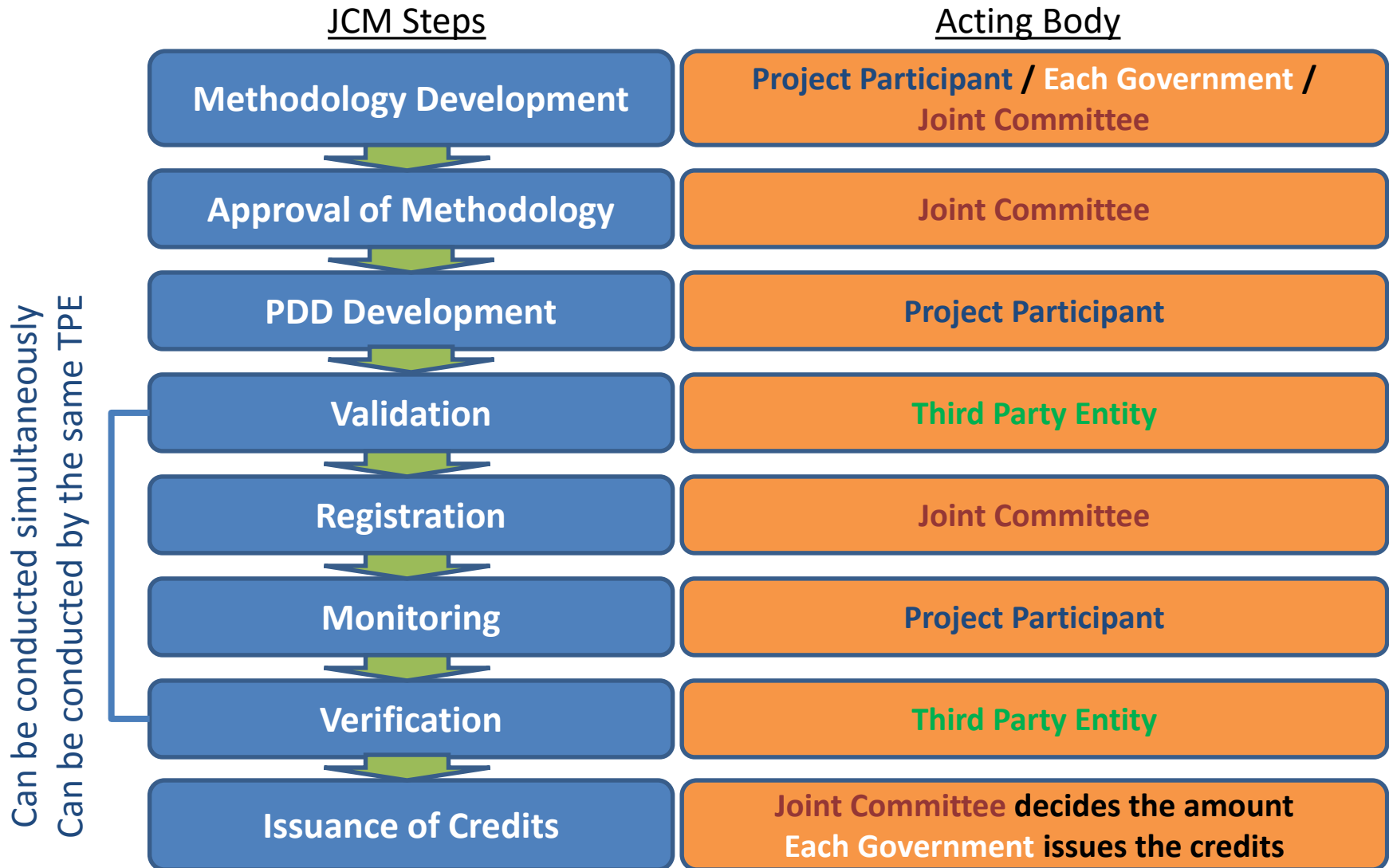
Ulaanbaatar, Mongolia

Basic Concept of JCM

Implemented between Japan and a host country (Mongolia) through signed bilateral documents



JCM Project Cycle



Methodology

Is there an Approved Methodology applicable to your Project?

YES

NO

Proceed to develop the Project Design Document (PDD) using the applicable Approved Methodology

Develop a proposed methodology

Submit the proposed methodology to the Joint Committee

Approval of the proposed methodology

Proceed to develop the PDD using the Approved Methodology

Developing the Project Design Document (PDD)

PDD Form and Guidelines

PDD form as well as detailed guidelines on how to complete the form will be available through the official **JCM Mongolia – Japan** website (<https://www.jcm.go.jp/mn-jp/>)

All other JCM related documentation

In fact, most, if not all, documentation necessary for the JCM project development cycle will be available through the official website

Official JCM Website

https://www.jcm.go.jp/mn-jp/rules_and_guidelines

JCM



Mongolia - Japan

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Rules and Guidelines

[\[Download All Rules and Guidelines\(zip:1.44MB\)\]](#) [\[Download All forms\(zip:0.70MB\)\]](#)

Category	Rules and Guidelines	Forms
General	Bilateral Document histories	
	Modification of Bilateral Document (as of 20 July 2016)	
	Rules of Implementation ver02.0 histories	
	Glossary of Terms ver01.0 histories	
	Common Specifications of the JCM Registry ver01.0	
		Modalities of Communication Statement Form ver02.0 [PDF] histories ver02.0 [WORD] histories
		Project Registration Request Form ver01.0 [PDF] histories ver01.0 [WORD] histories
		Credits Issuance Request Form ver02.0 [PDF] histories ver02.0 [WORD] histories
		Approved Methodology Revision Request Form ver01.0 [PDF] histories

Official JCM Website (cont.)

	<p>Project Cycle</p>	<p>Registration Request Withdrawal Form ver01.0 [PDF] histories ver01.0 [WORD] histories</p> <p>Project Withdrawal Request Form ver01.0 [PDF] histories ver01.0 [WORD] histories</p> <p>Issuance Request Withdrawal Form ver01.0 [PDF] histories ver01.0 [WORD] histories</p> <hr/> <p>Guidelines for Developing Proposed Methodology ver02.0 histories</p>	<p>Proposed Methodology Form ver01.0 [PDF] histories ver01.0 [WORD] histories</p> <p>Proposed Methodology Spreadsheet ver02.0 [PDF] histories ver02.0 [EXCEL] histories</p>
	<p>Third-Party Entity (TPE)</p>	<p>Guidelines for Developing Project Design Document and Monitoring Report ver02.0 histories</p> <hr/> <p>Guidelines for Designation as a Third-Party Entity ver04.0 histories</p>	<p>Project Design Document Form ver02.0 [PDF] histories ver02.0 [WORD] histories</p> <hr/> <p>Application Form for Designation as a Third-Party Entity ver03.0 [PDF] histories ver03.0 [WORD] histories</p>
	<p>Joint Committee (JC)</p>	<p>Rules of Procedures for the Joint Committee ver02.0 histories</p>	<p>Validation Report Form ver01.0 [PDF] histories ver01.0 [WORD] histories</p> <p>Verification Report Form ver01.0 [PDF] histories ver01.0 [WORD] histories</p>

Main Structure of the PDD

Section	Content
A	Project description
B	Application of an approved methodology(ies)
C	Calculation of emission reductions
D	Environmental impact assessment
E	Local stakeholder consultation
F	References
	Annex
Attachment to PDD	Monitoring Plan Sheet
	Monitoring Structure Sheet
	Monitoring Report Sheet

Guidelines for Developing the PDD

- Example of a completed PDD and Monitoring Spreadsheet is provided
- *Instructions are in italic*
- Example inputs are in red

A. Project description

A.1. Title of the JCM project

Energy Management System application for office buildings in Mongolia

Please indicate technology(ies) applied as well as sector that the project is implemented.

A.2. General description of project and applied technologies and/or measures

The proposed JCM project aims to improve electricity and fossil fuel consumption by introducing Energy Management System in existing buildings in Mongolia.

The key technology is to introduce optimum control and operation of buildings to achieve energy savings. Even without adopting facility investment measures such as replacement of existing facilities with more energy efficient ones, the optimum control and operation of building facilities can bring energy savings. Introducing Energy Management System will also lead to facility investment measures by analyzing facility energy consumptions.

The project covers 5 office buildings in “City X”, Mongolia. Energy Management System will be introduced in all buildings. LED, high-efficient air conditioning and fan inverter control will be introduced as part of the project in particular buildings.

Please include in the description:

- *The purpose of the project;*
- *Explanation of how the proposed project reduces greenhouse gas emissions (i.e. what type of technology is being employed, what measures are conducted as part of the project, etc).*

A.3. Location of project, including coordinates

Country	Mongolia
Region/State/Province etc.:	N/A
City/Town/Community etc.:	“City X”
Latitude, longitude	Building 1: N 10° 10’ 00” and E 100° 10’ 00”

Guidelines for Developing the PDD (cont.)

<Example of a Monitoring Structure Sheet>

JCM_MN_GL_PDD_MR_ver02.0

Monitoring Spreadsheet: JCM_MN_AM001_ver01.0

Monitoring Structure Sheet [Attachment to Project Design Document]

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.
Facility Managers	Appointed to be in charge of monitoring procedure (data collection and storage), including monitoring equipments and calibrations, and training of monitoring personnel.
Operators	Appointed to be in charge of checking the archived data for irregularity and lack.

<Example of a Monitoring Plan Sheet (Input Sheet)>

Monitoring Spreadsheet: JCM_MN_AM001_ver01.0

Monitoring Plan Sheet (input sheet) [Attachment to Project Design Document]

Table 1: Parameters to be monitored *ex post*

(a) Monitoring point No.	(b) Parameters	(c) Description of data	(d) Estimated Values	(e) Units	(f) Monitoring option	(g) Source of data	(h) Measurement methods and procedures	(i) Monitoring frequency	(j) Other comments
(1)	PFC _p	Project diesel fuel consumption during the period <i>p</i>	5,000	ktp	Option B	purchase records	- Collecting purchase amount from retailer invoices and inputting to a spreadsheet manually - Project deputy managers double check the input data with invoices every 6 months	once a month	
(2)	PEC _p	Project electricity consumption during the period <i>p</i>	10,000	MWh/p	Option C	monitored data	- Collecting electricity consumption data with validated/calibrated electricity monitoring devices and inputting to a spreadsheet electronically - Verified monitoring devices are installed and they are calibrated once a year - Verification and calibration shall meet international standard on corresponding monitoring devices.	continuous	
(3)	PFC _{Lp}	Project LPG consumption during the period <i>p</i>	0	tp	N/A	N/A	N/A	N/A	N/A
(4)	PFC _{gp}	Project natural gas consumption during the period <i>p</i>	0	1000Nm ³ /p	N/A	N/A	N/A	N/A	N/A
(5)	PFC _{kp}	Project kerosene consumption during the period <i>p</i>	0	ktp	N/A	N/A	N/A	N/A	N/A

Table 2: Project-specific parameters to be fixed *ex ante*

(a) Parameters	(b) Description of data	(c) Estimated Values	(d) Units	(e) Source of data	(f) Other comments
EER _{max}	Percentage of improvement in energy consumption efficiency for [Office Building] using BEMS	22	%	Past records of 30 similar size office buildings for the period of 2008-2012 measured by the project participant, BEMS provider. Data set of each building has the data of before and after BEMS implementation at least for one year respectively.	

Table 3: Ex-ante estimation of CO₂ emission reductions

CO ₂ emission reductions	Units
1,945	tCO ₂ /p

[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 measuring equipments (Data used: commercial evidence such as invoices)
Option C	Based on the actual measurement using measuring equipments (Data used: measured values)

4.2. Developing a Monitoring Plan

- Project participants develop before validation a monitoring plan using Monitoring Plan Sheet and Monitoring Structure Sheet in the corresponding Monitoring Spreadsheet of the methodology applied
- Project participants input estimated values for each parameter in the Monitoring Plan Sheet including those fixed *ex ante* for parameters not to be monitored.
- Project participants also describe the following items for each parameter specified in the Monitoring Plan Sheet in line with the applied methodology(ies). Project participants may add detailed information specific to the proposed project to the contents given in the applied methodology.
 - Estimated values: Provide the estimated values of the parameter for the purpose of calculating emission reductions *ex ante*.
 - Monitoring option: Select an option from below;
 - 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 measuring equipments (Data used: commercial evidence such as invoices);
 - Option C: Based on the actual measurement using measuring equipments (Data used: measured values).
 - Source of data: Provide the source of data used or to be used. Clearly indicate the type of data source (e.g. logbooks, daily records, surveys, etc.) and spatial level of data (e.g. local, regional, national, international), if applicable;
 - Measurement methods and procedures: Describe how the parameters are to be measured/calculated including Quality Assurance/Quality Control (hereinafter referred to as "QA/QC") procedures applied. If the parameter will be measured, describe the equipments to be used to measure it, including details on accuracy level, and calibration information (frequency, date of calibration and validity) in line with section 4.3 below;

Example PDD of a Registered Project

JCM_MN_F_PDD_ver01.0

JCM_MN_F_PDD_ver01.0

JCM Project Design Document Form

A. Project description

A.1. Title of the JCM project

"Installation of high-efficiency Heat Only Boilers in 118th School of Ulaanbaatar City" Project

A.2. General description of project and applied technologies and/or measures

The 118th school in Ulaanbaatar city is located in 8th Khoroo, Khan-Uul District. This school opened relatively new, in 2009. It is located near the Genghis Khan International Airport. The climate of Ulaanbaatar is dry, and very cold in the winter season. Khan-Uul District of Ulaanbaatar City is the outside of the service area of the heat supply from the thermal power plants. Therefore, HOB is a necessary heating service for schools and kindergartens. Since the population of the neighboring area has been increasing rapidly, the construction of a new school building and the establishment of a new kindergarten were planned.



Figure 1 Location of 118th school of Ulaanbaatar

The proposed JCM project aims the introduction of high-efficiency HOBs which are necessary to fulfill the demand of new heat facilities for the new school building and the kindergarten.

The Reference HOB is the vertical type in line with MN_AM002.

The key technology is applied in the boiler, "CARBOROBOT C300", with a rotary grate. The fuel (coal) is automatically fed from the hopper to the rotary grate. The amount of fuel on the grate is optimized, burning only the minimum amount required to cover the heat demand of the building at the time. Therefore, the "CARBOROBOT C300" is more efficient than the

Reference HOB.

In addition, the "CARBOROBOT C300" boiler is designed with the multi-cyclone module (dust collector), which contributes to the reduction of the air pollutant in Ulaanbaatar City.

The new boiler building was constructed and introduced the new HOB facilities, such as a heat exchanger and makeup tank, and this project was implemented as a JCM project. (refer to "Ref.01")

A.3. Location of project, including coordinates

Country	Mongolia
Region/State/Province etc.:	Ulaanbaatar City
City/Town/Community etc.:	8th Khoroo, Khan-Uul District
Latitude, longitude	Latitude: 47° 51' 42.3", Longitude: 106° 47' 43.3"

A.4. Name of project participants

Mongolia	ANU-SERVICE CO.,LTD.
Japan	SUURI-KEIKAKU CO.,LTD.

A.5. Duration

Starting date of project operation	01/10/2014
Expected operational lifetime of project	15 years

A.6. Contribution from developed countries

The proposed project was financially supported by the Ministry of the Environment, Japan through the financing programme for JCM model projects which seeks to acquire JCM credits. Japanese experts of "SUURI-KEIKAKU CO., LTD." will support the development of telemeter system such as the remote control and automatic record of the monitoring data, as the core of MRV activities of JCM.

The Capacity Development was applied to the boiler managers by the Japanese engineers using a technical guidance. The aim of the technical guidance is to optimize the boiler operation based on the results from the measurements of the Japanese engineers. In addition, the person in charge of "SUURI-KEIKAKU CO.,LTD." made some manuals from these activities for staffs of "ANU-SERVICE CO.,LTD." (refer to "Ref.02" and "Ref.03")

Since ANU-SERVICE CO., LTD. is the host country's (Mongolian) operation and monitoring entity, SUURI-KEIKAKU CO., LTD. implements the capacity development of the monitoring activity to the ANU-SERVICE CO., LTD. staffs.

Example PDD of a Registered Project (cont.)

JCM_MN_F_PDD_ver01.0

JCM_MN_F_PDD_ver01.0

B. Application of an approved methodology(ies)	
B.1. Selection of methodology(ies)	
Selected approved methodology No.	MN_AM002
Version number	Ver. 1.0

B.2. Explanation of how the project meets eligibility criteria of the approved methodology

Eligibility criteria	Descriptions specified in the methodology	Project information
Criterion 1	Technology to be employed in this methodology is coal-fired heat only boiler(HOB) for hot water supply system.	The purpose of the boilers is to heat school and kindergarten. The boilers are hot water low pressure automatic boilers and designed for brown coal (5-25 mm) burning only. (refer to "Ref.01")
Criterion 2	Capacity of the project HOB ranges from 0.10 MW to 1.00MW.	Two high efficient coal fired boilers "CARBOROBOT C300" with capacity of 300 kW each, installed at project site. (refer to "Ref.01" and "Ref.05")
Criterion 3	The project activity involves the installation of new HOB and/or the replacement of the existing coal-fired HOB.	The two new high efficient HOBs "CARBOROBOT C300" of capacity 300 kW are installed. (refer to "Ref.01" and "Ref.05")
Criterion 4	The project HOB is equipped with an operation and maintenance manual.	The manual of boiler operation is prepared in Mongolian language. The maintenance manual of "CARBOROBOT C300" is prepared in Mongolian language. (refer to "Ref.02", "Ref.03", and "Ref.04")
Criterion 5	The catalog value of the boiler efficiency for the project HOB is 80% or higher.	The boiler efficiency of "CARBOROBOT C300" is "85% - 90%", according to the catalog value. (refer to "Ref.05")
Criterion 6	The project HOB has the function to feed coal on the stoker uniformly and is equipped with a dust	"CARBOROBOT C300" has a unique, rotating-grate technology. Since "CARBOROBOT C300" has the

collector.	structure that the hopper is upside of the rotary grate, the fuel (coal) is automatically and uniformly fed from the hopper to the rotary grate. The amount of fuel on the grate is optimized, burning only the minimum amount required to cover the heat demand of the building at the time. This feature is enhanced by the active agitator and vibrator system located in the fuel container. A special rotary grate performs to control the dosage of the fuel by using the accurately regulated burning process, and automatically removes the ash from the furnace chamber to the ash chamber. The CARBOROBOT boilers are designed with the multi-cyclone module (dust collector). (refer to "Ref.01" and "Ref.05")
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C. Calculation of emission reductions

C.1. All emission sources and their associated greenhouse gases relevant to the JCM project

Reference emissions		
Emission sources	GHG type	
Coal Consumption of reference HOB	CO2	
Project emissions		
Emission sources	GHG type	
Coal Consumption of project HOB	CO2	
Electricity Consumption of project HOB	CO2	

C.2. Figure of all emission sources and monitoring points relevant to the JCM project

Example PDD of a Registered Project (cont.)

JCM_MN_F_PDD_ver01.0

JCM_MN_F_PDD_ver01.0

The emission sources are coal consumptions and electrical consumptions in HOB.

The monitoring equipment is the heatmeter which measures the quantity of net heat supply of HOB. "Monitoring point 1" is the "Heat Quantity" ("PH_p") of the heatmeter. The "Heat Quantity" is calculated by the flow rate of outgoing heat water/returning heat water ("V1"), the temperature of outgoing heating water ("T1") and the temperature of returning heating water ("T2").

The persons in charge of the monitoring activity are able to get the information of heatmeter by using the telemeter system. The telemeter system consists of the data logger of the heatmeter and the signal conductor. The monitoring data will be recorded hourly in the data logger, and the data are collected daily by using the telemeter system.

The "Monitoring point 2" is the HOB itself. This item of the "Monitoring Points 2" is the total hours of the project HOB operation. Total hours are the period from the starting to the ending time regarding the monitoring activity.

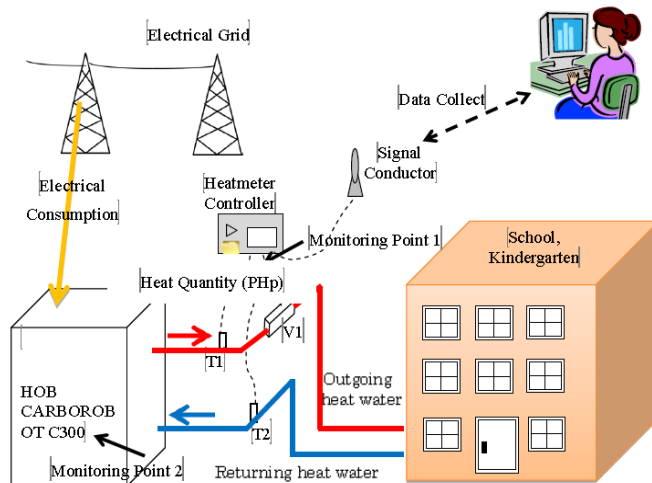


Figure 2 Monitoring Point of "CARBOROBOT C300"

C.3. Estimated emissions reductions in each year

Year	Estimated	Reference	Estimated	Project	Estimated	Emission
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	emissions (tCO _{2e})	Emissions (tCO _{2e})	Reductions (tCO _{2e})
2013	0	0	0
2014	0	0	0
2015	805	713	92
2016	805	713	92
2017	805	713	92
2018	805	713	92
2019	805	713	92
2020	805	713	92
Total (tCO _{2e})	4830	4278	552

D. Environmental impact assessment

Legal requirement of environmental impact assessment for the proposed project	YES
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E. Local stakeholder consultation

E.1. Solicitation of comments from local stakeholders

Date: from 13:30 to 15:00, 28th June 2014

Place: a classroom of 118th school of Ulaanbaatar City

Participants: 44 people living and/or working near 118th school, 44 people responded the questionnaire, and there are some babies and children.

Handouts: Questionnaire (Mongolian language), Outline of JCM (Mongolian language)

Agenda:

- 1) Outline of JCM and JCM Project (Mr. Kuwahara)
- 2) Technical review of "Installation of high-efficiency Heat Only Boilers in 118th School of Ulaanbaatar City" Project (Mr. Injinaash)
- 3) Q&A
- 4) Closing remark

ANU-SERVICE CO.,LTD. announced the local stakeholder consultation in newspaper on 13th June 2014. In addition, the teachers of 118th school informed their schoolkids and students of the local stakeholder consultation. Therefore many parents participated in the local stakeholder consultation. The announcement of newspaper and web site are as follows;

Example PDD of a Registered Project (cont.)

JCM_MN_F_PDD_ver01.0

JCM_MN_F_PDD_ver01.0



The circumstances of stakeholder consultation were as follows,



Though this local stakeholder consultation, the local stakeholder understood the JCM project deeply and results of the questionnaire were positive. The local stakeholder showed the expectation about supplying the hot-water to their homes. As a result, since they had a favorable impression of the project promotion, the particularly additional correspondence was unnecessary.

E.2. Summary of comments received and their consideration

Stakeholders	Comments received	Consideration of comments received
Khoroo head	<p>In 118 schools, what kind of fuel do you use?</p> <p>In 118 schools, how much fuel do you use?</p> <p>How much saving effect is there?</p> <p>What is the effect to use this boiler for?</p>	<p>For the new school building and new establishment of kindergarten, heat demand increases. As a result, the coal consumption increases from last year. However, coal consumption is reduced in comparison with the use of the conventional boilers because of using high efficiency boilers.</p>

		The stakeholder did not understand completely. Therefore, this stakeholder asked another question.
Khoroo head	Please explain it more clearly.	<p>[This boilers use coal refuses. As a result, the waste decrease and exhaust gas is little, too. In addition, the ability for heat supply of the boilers is high.</p> <p>The stakeholder understood the answer: The additional action was not necessary.</p>
Male "A"	Can the heat supply be implemented to the apartment in the same way that the heat supply is implemented to the school and the kindergarten?	<p>[The heat supply can be implemented. The boilers are installed depending on the heat demand for house size. Our company is implementing heat supply to the apartment of three or four floors in local area.</p> <p>The stakeholder understood the answer: The additional action was not necessary.</p>
Female "B"	Can the heat supply be implemented to the "GER" area?	<p>[The heat supply to the "GER" area can be implemented. If land problems are solved, the heat supply is possible.</p> <p>The stakeholder understood the answer: The additional action was not necessary.</p>
Female "C"	Can the heat supply be implemented to one street of "GER" area?	<p>[It can be implemented. But, a problem is that one street is not enough area. So, the heat supply can be implemented to some streets of "GER" area.</p> <p>The stakeholder understood the answer: The additional action was not necessary.</p>

Example PDD of a Registered Project (cont.)

JCM_MN_F_PDD_ver01.0

F. References
Ref.01; Results of 118th School Environment Impact Assessment.pdf
Ref.02; [confidential] Maintenance Manual_CARBOROBOT.pdf
Ref.03; [confidential] Improvement Manual of HOB from SUR_MN.pdf
Ref.04; [confidential] HOB Operation and Maintenance Manual.pdf
Ref.05; Specifications of HOBs.pdf
Ref.06; 2012FS_Monitoring Results of 79th school HOB.pdf
Reference lists to support descriptions in the PDD, if any.

Annex

Revision history of PDD		
Version	Date	Contents revised
Ver 1.0	18/05/2015	First Edition
Ver 2.0	19/06/2015	Second Edition PDD was revised because of the document review and follow-up actions of TPE. The Contents revised are "A.2.", "A.5", "A.6.", "B.2.", "C.2.", "E.1.", "E.2." and "F. Reference".
Ver 3.0	27/06/2015	Third Edition

Example PDD of a Registered Project (cont.)

Monitoring Spreadsheet: JCM_MN_AM002_ver01.0

Sectoral scope: 01

Monitoring Plan Sheet (Input Sheet) [Attachment to Project Design Document]

Table 1: Parameters to be monitored ex post

(a) Monitoring point No.	(b) Parameters	(c) Description of data	(d) Estimated Values	(e) Units	(f) Monitoring option	(g) Source of data	(h) Measurement methods and procedures	(i) Monitoring frequency	(j) Other comments
1	PH _p	Net heat quantity supplied by the project HOB during the period <i>p</i> .	4,725	GJ/p	Option C	Logged data of net heat quantity supplied by the project HOB	<p>PH_p (Net heat quantity) is measured by the heatmeter. The method of the installation and operational monitoring regarding the heatmeter meets the Mongolian National Standard (MNS). This Standard is "MNS 6241:2011" ("Heatmeters. General requirements for the installation, commissioning, operational monitoring and maintenance"). Accepted uncertainty is ±5% according to "MNS 4549:2005" ("Calculator of heatmeter. The method and means of verification"). Since the heatmeter with the verification (official approval) is used, the heatmeter shall be verified before the verification validity of the heatmeter expire. The verification period of the heatmeter is 4 years according to "List of Measuring Instruments subject to mandatory verification", approved by the order #A384, of 2014/12/09, of the Chairman of the "Mongolian Agency for Standardization and Metrology" under "LAW ON GUARANTEE THE UNIFORMITY OF MEASUREMENT".</p> <p>QA/QC: The installed heatmeter shall be confirmed by Verification Validity with Verification Seal marked on the heatmeter. In case that the heatmeter does not meet MNS, the heatmeter shall be replaced by a new one with the verification.</p> <p>Monitoring data is the amount of heat supplied from the project HOB. This monitoring data is recorded in the data logger that is built into the heatmeter. Electric data recorded on the data logger is input to the spreadsheet properly. The measuring frequency is continuous. The monitoring data is recorded hourly and collected daily. The backup method is the daily back-up in the computer and monthly back-up on the CD.</p> <p>QA/QC: Monitored data are managed according to the QA/QC procedures stipulated in the Monitoring Structure Sheet.</p>	<p>Measuring frequency: Continuously</p> <p>Recording frequency: Hourly</p>	Trouble shooting procedure of missing data; Completed by the hourly minimum value (excluding abnormal value) of available recorded data during the monitoring period.
2	HMP _p	Total hours of the project HOB operation during the period <i>p</i>	5,088	hours/p	Option C	Identified by monitoring period	Total time from the start time of monitoring to the end time of monitoring	---	---

Example PDD of a Registered Project (cont.)

Table 2: Project-specific parameters to be fixed *ex ante*

(a)	(b)	(c)	(d)	(e)	(f)
Parameters	Description of data	Estimated Values	Units	Source of data	Other comments
RPC _{P,J,HOB}	Rated power consumption of the project HOB	1.2	kW	Catalog value provided by the manufacturer of the project HOB	
EF _{CO₂,grid}	CO ₂ emission factor of the grid electricity consumed by the project HOB	1.1030	tCO ₂ /MWh	The most recent value available at the time of validation is applied and fixed for the monitoring period thereafter. The data is sourced from CDM Mongolia unless otherwise instructed by the Joint Committee.	

Table3: *Ex-ante* estimation of CO₂ emission reductions

CO ₂ emission reductions	Units
92	tCO ₂ /p

[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 measuring equipments (Data used: commercial evidence such as invoices)
Option C	Based on the actual measurement using measuring equipments (Data used: measured values)

Example PDD of a Registered Project (cont.)

Monitoring Spreadsheet: JCM_MN_AM002_ver01.0
Sectoral scope: 01

Monitoring Spreadsheet: JCM_MN_AM002_ver01.0
Sectoral scope: 01

Monitoring Plan Sheet (Calculation Process Sheet) [Attachment to Project Design Document]

1. Calculations for emission reductions	Fuel type	Value	Units	Parameter
Emission reductions during the period p	N/A	92	tCO ₂ /p	ER _p
2. Selected default values, etc.				
CO ₂ emission factor of coal	Coal	0.0909	tCO ₂ /GJ	EF _{CO₂, coal}
Boiler efficiency of the reference HOB	N/A	0.533	-	η _{RE,HOB}
Boiler efficiency of the project HOB	N/A	0.610	-	η _{PJ,HOB}
3. Calculations for reference emissions				
Reference emissions during the period p	N/A	805	tCO ₂ /p	RE _p
Reference Emissions	N/A	805	tCO ₂ /p	
Net heat quantity supplied by the project HOB	N/A	4,725	GJ/p	PH _p
Boiler efficiency of the reference HOB	N/A	0.533	-	η _{RE,HOB}
CO ₂ emission factor of coal	Coal	0.0909	tCO ₂ /GJ	EF _{CO₂, coal}
4. Calculations of the project emissions				
Project emissions during the period p	N/A	713	tCO ₂ /p	PE _p
Project emissions (Fossil fuel consumption)	N/A	705	tCO ₂ /p	
Net heat quantity supplied by the project HOB	N/A	4,725	GJ/p	PH _p
Boiler efficiency of the project HOB	N/A	0.610	-	η _{PJ,HOB}
CO ₂ emission factor of coal	Coal	0.0909	tCO ₂ /GJ	EF _{CO₂, coal}
Project emissions (Electricity consumption)	N/A	8	tCO ₂ /p	
Electricity consumption of the project HOB	Electricity	7	MWh/p	EC _p
Total hours of the project HOB operation	N/A	5,088	h/p	HMP _p
Rated power consumption of the project HOB	N/A	1	kW	RPC _{PJ,HOB}
CO ₂ emission factor of the grid	Electricity	1.1030	tCO ₂ /MWh	EF _{CO₂, grid}

[List of Default Values]

CO ₂ Emission Factor of Coal used in HOBs	EF _{CO₂, coal}	unit
Default emission factor applied to Lignite in fuel according to "2006 IPCC Guidelines for National Greenhouse Gas Inventory"	0.0909	tCO ₂ /GJ
Boiler Efficiency of coal-fired HOB in Mongolia	η	unit
Boiler Efficiency of Reference the HOB	0.533	-
Boiler Efficiency of the Project HOB	0.610	-

Monitoring Structure Sheet [Attachment to Project Design Document]

Responsible personnel	Role
Senior Engineer of Anu-Service Co.,Ltd	Operation of HOB; Management of HOB; Maintenance of HOB.
Job Manager of SUURI-KEIKAKU CO.LTD.	Administrative Agent of JCM Project; making and submitting PDD; management of QA/QC of monitoring data; responsible for overall monitoring activity; ensures the quality of the monitoring report and the structure and procedure for producing such a document; appoints the civil engineer of ANU-SERVICE CO.,LTD. responsible for managing monitoring points, when necessary, to collect data and maintain and control measuring instruments (including calibration/regular inspection) at monitoring points.
Civil Engineer of ANU-SERVICE CO.,LTD.	Archiving the monitoring data; responsible for managing monitoring points, when necessary, to collect data and maintain and control measuring instruments (including calibration/regular inspection) at monitoring points; Operation of Telemeter System of Heatmeter; Management of Telemeter System of Heatmeter; Development of Telemeter System of Heatmeter; Maintenance of Telemeter System of Heatmeter.

Simplified PDD Development

Calculation of emission reduction

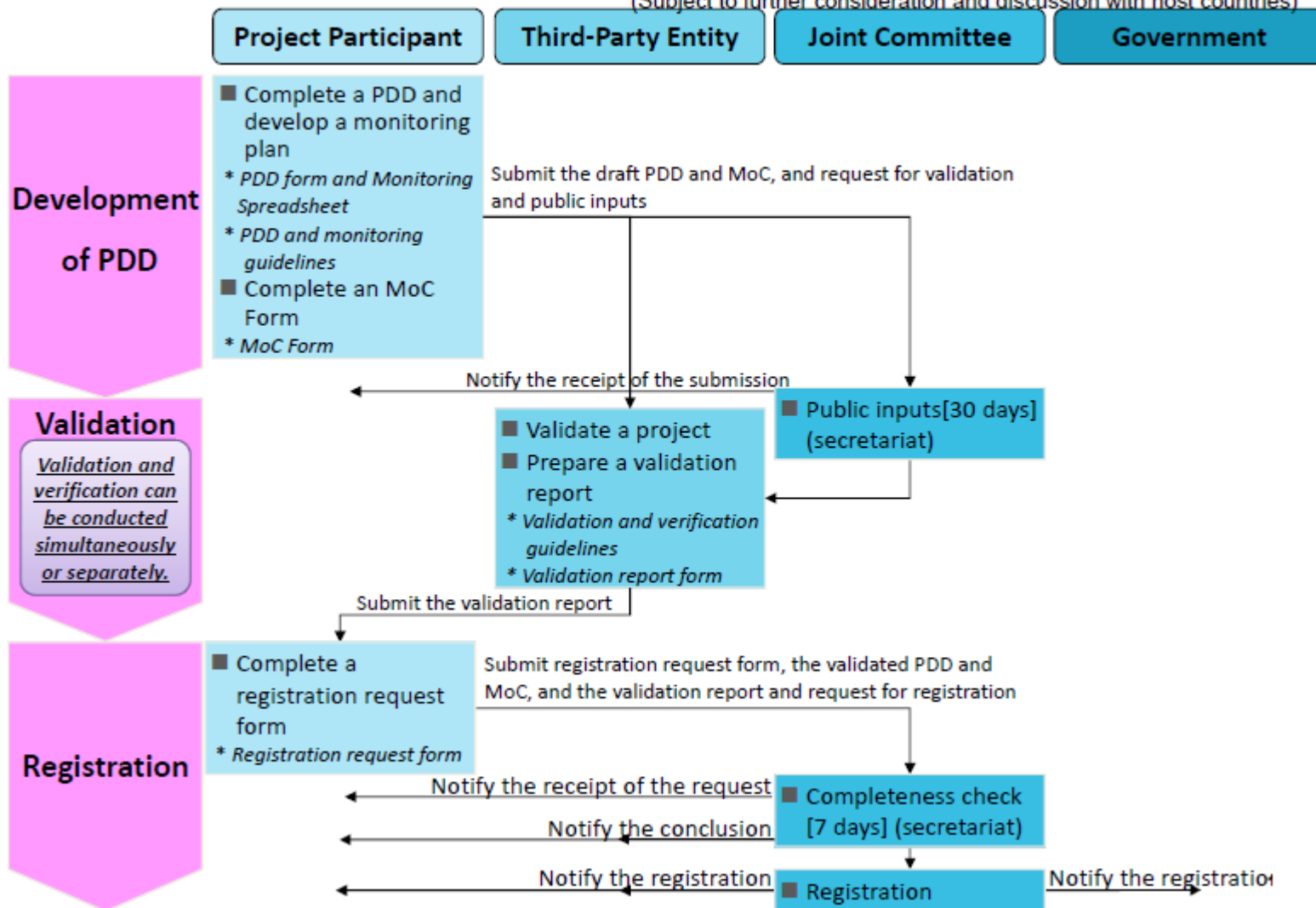
- Spreadsheets are provided
- Default values can be used if monitored parameters are limited

Baseline and Additionality

- Does not need to be demonstrated in the PDD
- Addressed under the Approved Methodology

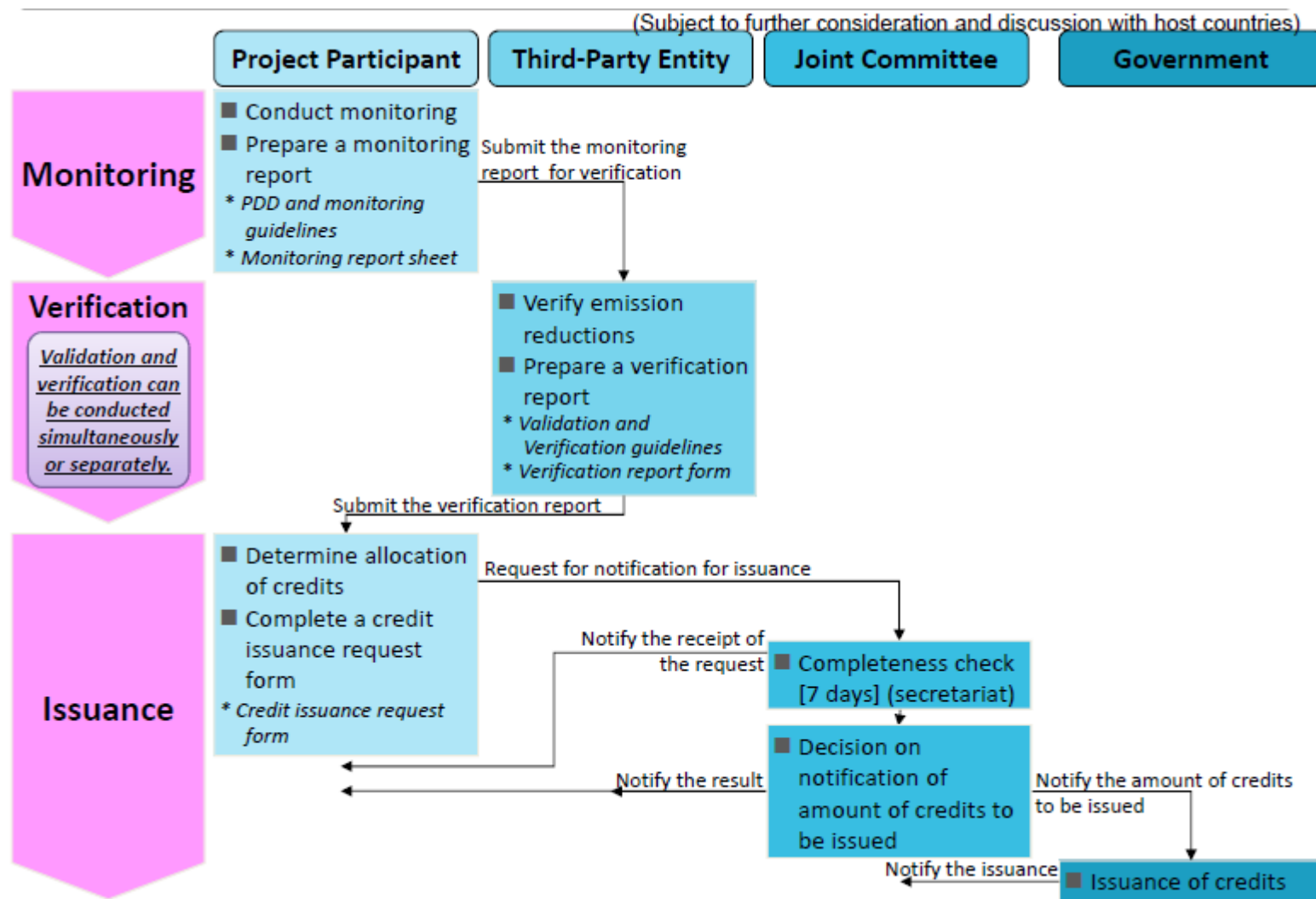
Registration and Issuance Procedure

(Subject to further consideration and discussion with host countries)



Source: Government of Japan

Registration and Issuance Procedure (cont.)



Source: Government of Japan

Thank you

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