

Preparation of Validation

Training for TPE Candidates

November 10, 2015

ERM Japan

Tsuyoshi Nakao

- *Validation Approach*
- *Validation Team*
- *Desk review*
- *Assessment of PDD*

1. Validation Approach

Validation Process

Agreement with project participants (12)

Development of validation approach (18)

- Understanding project activities and project implementation environment
- Risk assessment
- Formulation of validation plan, including:
 - Level of assurance
 - Materiality
 - Scope
 - Activities and schedule
- Sampling plan, if applicable (17)

Assessment of GHG data, information (19-76)

- Assessment of:
 - Project Design Document (PDD)
 - Modalities of Communications (MoC)
- Raising CARs, CLs, FARs as appropriate

Evaluation of validation results

- Judgment of reliance on internal control
- Quality of evidence (GHG data and information)
- Assessment against applicable standards
- Evaluation of GHG assertions

Issuance of validation report (77-81)

Quality Assurance / Quality Control

- Recording and retention
- Quality control review of validation engagement
- Taking appropriate responses to any facts discovered after validation

不許複製 (弊社)

Validation Approach

TPE review;

1. Compliance to requirements of
 - Applied methodology(ies);
 - Guidelines of JCM;
 - Decisions by the Joint Committee.
2. The claims, assumptions in
 - PDD
 - MoC (modalities of communication statement)

The evidence is not limited to that provided by the project participants.

JCM VVM 18

不許複製（弊社の許可なく複製・転載お断りいたします。）

Project Design Document (PDD)

Joint Crediting Mechanism Project Design Document Form

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

Country	
Region/State/Province etc.	
City/Town/Community etc.	
Latitude, longitude	

A.4. Name of project participants

Mongolia	
Japan	

A.5. Duration

Starting date of project operation	
Expected operational lifetime of project	

A.6. Contribution from developed countries

- PDD
- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction
- D. Environmental impact assessment
- E. Local stakeholder consultation
- Others,

Monitoring Worksheet (PDD) (Attachment to PDD) (Rev. 1.0)

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 ₁	Project diesel fuel consumption during the period of year y	5,000	kily	Option B	purchase records	- Collecting purchase amount from retailer invoices and inputting to a spreadsheet manually - Project deputy manager double check the input data with invoices every 5 months	once a month	
(2)	PEC ₁	Project electricity consumption during the period of year y	10,000	MWh/y	Option C	monitored data	- Collecting electricity consumption data with separate-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 ₂	Project LPG consumption during the period of year y	0	0 t/y	N/A	N/A	N/A	N/A	N/A
(4)	PFC ₃	Project natural gas consumption during the period of year y	0	1000Nm ³ /y	N/A	N/A	N/A	N/A	N/A
(5)	PFC ₄	Project kerosene consumption during the period of year y	0	kily	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
IER _{ex-ante}	Percentage of improvement in energy consumption efficiency for (Office Building) using BEMS	22%	%	Plant records of 30 similar size office buildings for the period of 2008-2012 measured by the project partner as 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
1,942	CO ₂ /y

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 reference data and specifications)

Option B: Based on the amount of transaction which is measured directly using measuring equipments (data used: contract evidence such as invoices)

Option C: Based on the actual measurement using measuring equipments (data used: measured values)

15

Excel sheet for Monitoring and calculation

不許複製（弊社の許可なく複製・転載お断りいたします。）

Modalities of communications (MoC)

JCM Modalities of Communication Statement Form

Section 1: Project description	
Title of the project	
Country	
Date of Submission	dd/mm/yyyy

Section 2: Nomination of focal point entity		
Name of entity:		
Address (incl. postcode):		
Telephone:	Fax:	
E-mail:	Website:	
Primary authorised signatory:	Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>	
Last name:	First name:	
Title:		
Specimen signature:	Date: dd/mm/yyyy	
Alternate authorised signatory:	Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>	
Last name:	First name:	
Title:		
Specimen signature:	Date: dd/mm/yyyy	
Contact person:	Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>	
Last name:	First name:	
Title:		
Department:		
Mobile:	Direct tel.:	
E-mail:	Direct fax:	
USE THIS SECTION FOR POST-REGISTRATION SUBMISSIONS ONLY	Is this entity changing its name?	Yes <input type="checkbox"/> (Former entity name:) No <input type="checkbox"/>
	Is the entity also a project participant?	Yes <input type="checkbox"/> No <input type="checkbox"/>
	If the entity is also a project participant, do the same signatories represent it in its project participant role?	Yes <input type="checkbox"/> No <input type="checkbox"/>

one focal point to communicate with Joint Committee, secretariat in line with and complete MoC to submit to the Joint Committee and the TPE with draft PDD.

Desk review (Strategic Review)

- Review PDD
- Understand the project, and the methodology
- Key risks and major issues

Also need to check;

- JC decisions relating to the sector/technology/methodology through other projects
- Issues raised in recent requests for review for similar projects

Clarification requests and send to client

Decides the interviewees at follow-up interview stage

Follow-up interviews (Site Visits)

Interview with host country stakeholders

Example of interviewees

1. Project developers

Issues related to

- Technical implementation
- Emission reduction estimation
- Monitoring

2. Power company

- Grid network
- Electric power mix in the future
- Grid carbon emission factor

3. Local authority about environment

- Environmental regulations
- EIA
- Permissions to operation

Draft validation report and follow

Draft validation report and Resolution of Corrective action request

JCM Validation Report Form		
A. Summary of validation		
A.1. General Information		
Title of the project		
Reference number		
Third-party entity (TPE)		
Project participant contracting the TPE		
Date of completion of this report		
A.2 Conclusion of validation		
Overall validation opinion	<input type="checkbox"/> Positive <input type="checkbox"/> Negative	
A.3. Overview of final validation conclusion		
<i>Only when all of the checkboxes are checked, overall validation opinion is positive.</i>		
Item	Validation requirements	No CAR or CL remaining
Project design document form	The TPE determines whether the PDD was completed using the latest version of the PDD forms appropriate to the type of project and drafted in line with the Guidelines for Developing the Joint Crediting Mechanism (JCM) Project Design Document, Monitoring Plan and Monitoring Report.	<input type="checkbox"/>
Project description	The description of the proposed JCM project in the PDD is accurate, complete, and provides comprehension of the proposed JCM project.	<input type="checkbox"/>
Application of approved JCM methodology (ies)	The project is eligible for applying applied methodology and that the applied version is valid at the time of submission of the proposed JCM project for validation.	<input type="checkbox"/>
Emission sources and calculation of emission reductions	All relevant GHG emission sources covered in the methodology are addressed for the purpose of calculating project emissions and reference emissions for the proposed JCM project. The values for project specific parameters to be fixed <i>ex ante</i> listed in the Monitoring Plan Sheet are appropriate, if applicable.	<input type="checkbox"/>
Environmental impact assessment	The project participants conducted an environmental impact assessment, if required by Mongolia, in line with Mongolia's procedures.	<input type="checkbox"/>
Local stakeholder consultation	The project participants have completed a local stakeholder consultation process and that due steps were taken to engage stakeholders and solicit comments for the proposed project.	<input type="checkbox"/>

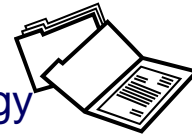
不許複製（弊社の許可なく複製・転載お断りいたします。）

Risk-Based Validation Approach

- Stakeholders
- NGOs

- JCM Guidelines
- Applied methodology
- Decisions by JC
- Forms
- and so on...

- Project Description
- Application of methodology
- Emission reduction
- Environmental assessment
- Local stakeholder consultation
- Others,



PDD

Identify risks :
assumptions
data sources

Relevance?
Completeness?
Consistency?
Accuracy?
Conservativeness?
Transparency?

Follow-up
Interviews

Material uncertainty:
Detailed investigation

Validation Report

不許複製（弊社の許可なく複製・転載お断りいたします。）

What is Risk ?

1. Possibility of non-compliance with requirements
2. Potential cause of misstatement of emissions reductions
3. Assess project design document (PDD).
 - ✓ Relevance
 - ✓ Completeness
 - ✓ Consistency
 - ✓ Accuracy
 - ✓ Conservativeness
 - ✓ Transparency

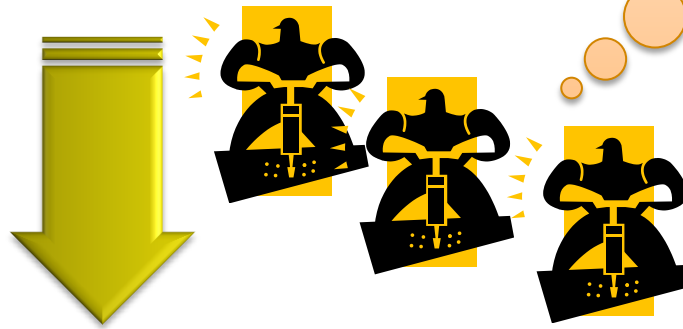


6 principles for reporting (ISO14064-2)

Risk checked on Validation

Identified Risk

What kind of information should I get?



Detail investigation



不許複製（弊社の許可なく複製・転載お断りいたします。）

Conservativeness

Relevance, Completeness, Consistency
Accuracy, Transparency

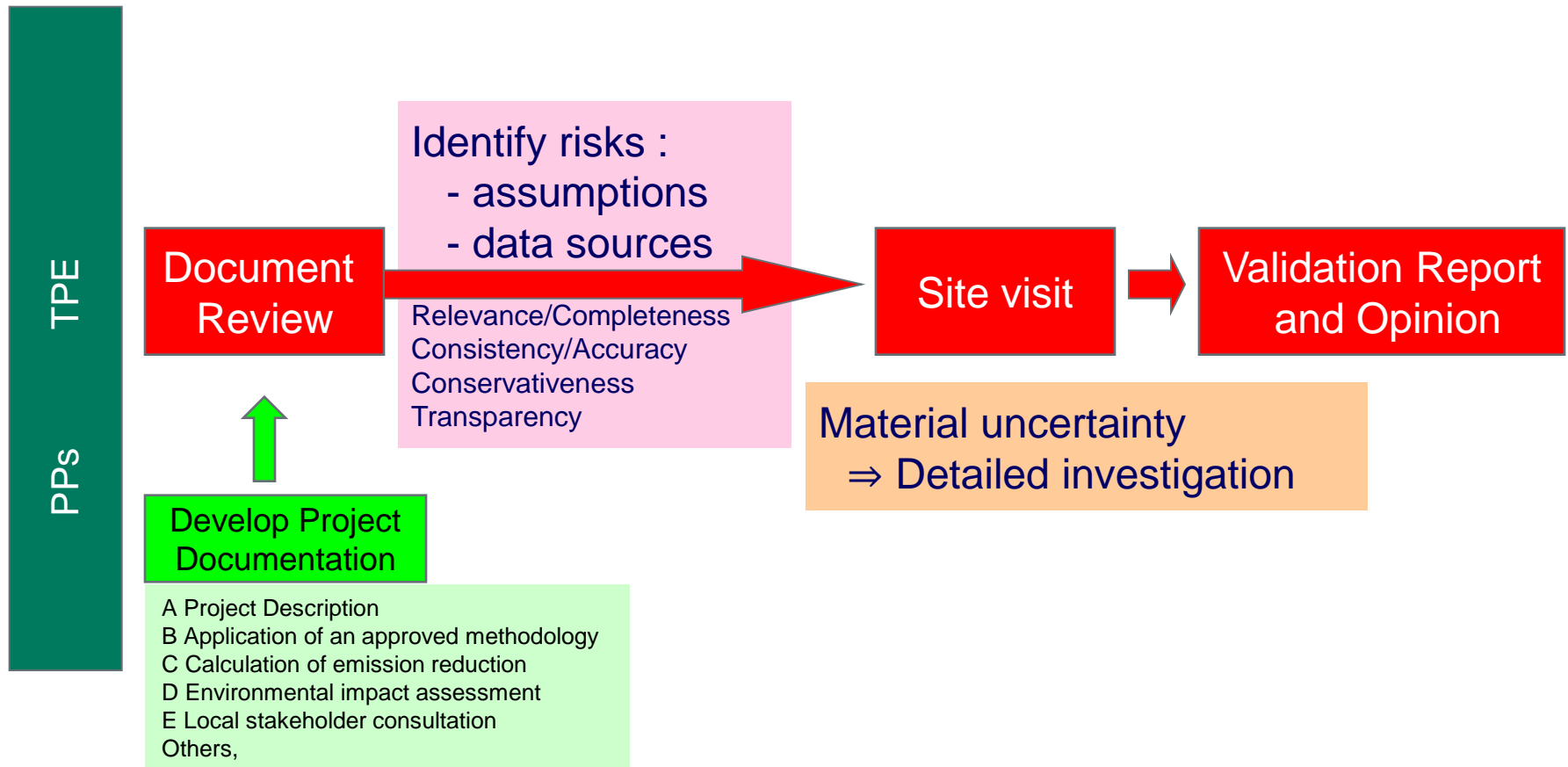
A Project Description
B Application of an approved methodology
C Calculation of emission reduction
D Environmental impact assessment
E Local stakeholder consultation
Others,

To reduce Risk

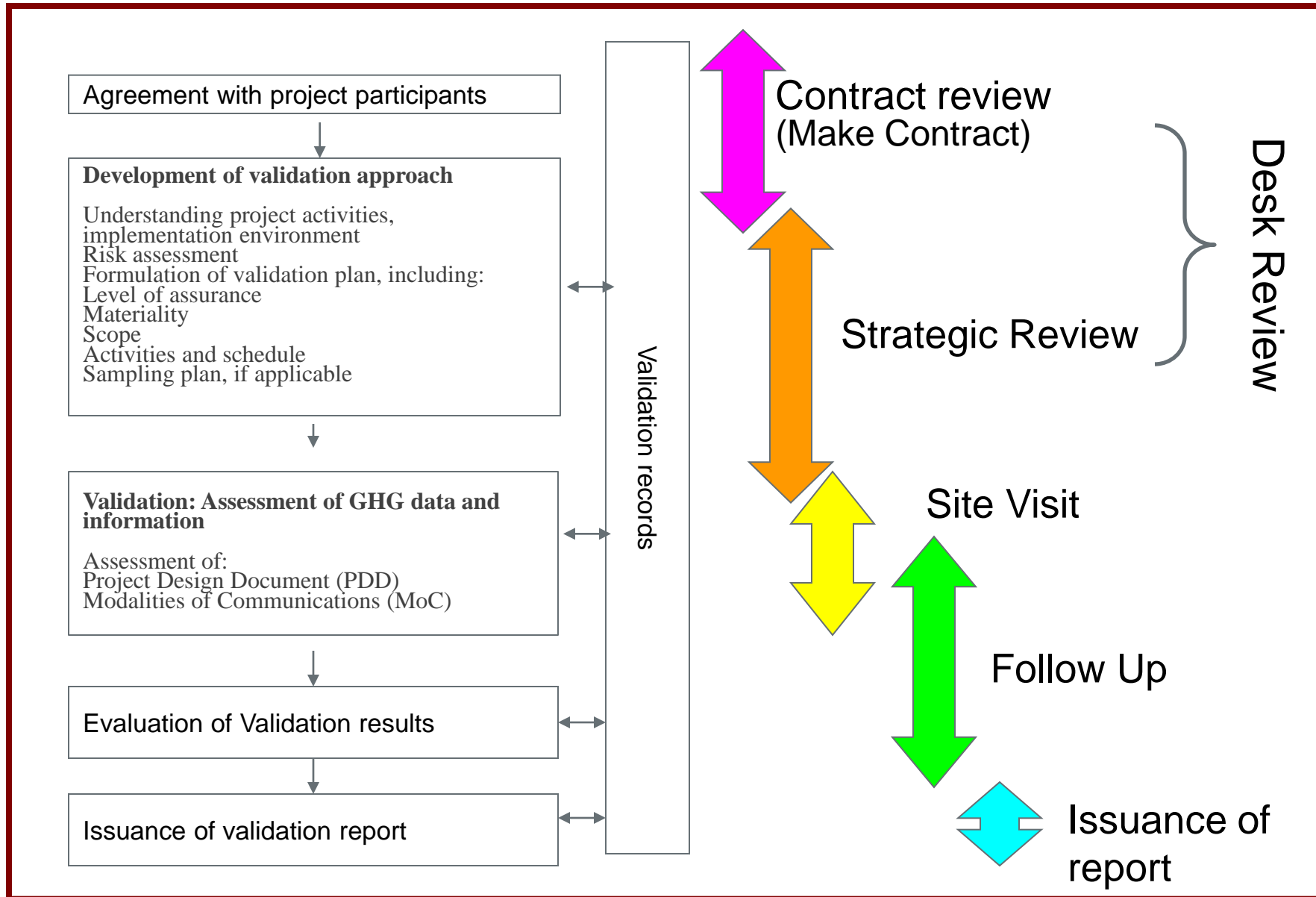
More and Detail
information

Select *Conservative*
Manner

The Validation Process



Validation and Verification Process



2. Validation Team

Validation team

- Independent
- No conflict of interest
- Competent, Professional
- Integrity and trustable

Designated by Joint Committee

Eligibility

- Accredited under ISO 14065
- DOE of CDM

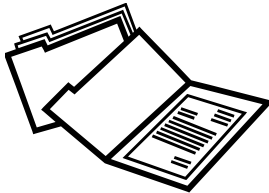
Validation Team



Team Leader: 1



Team member: 1 or more



Sector expert is necessary

Avoidance of conflict of interest

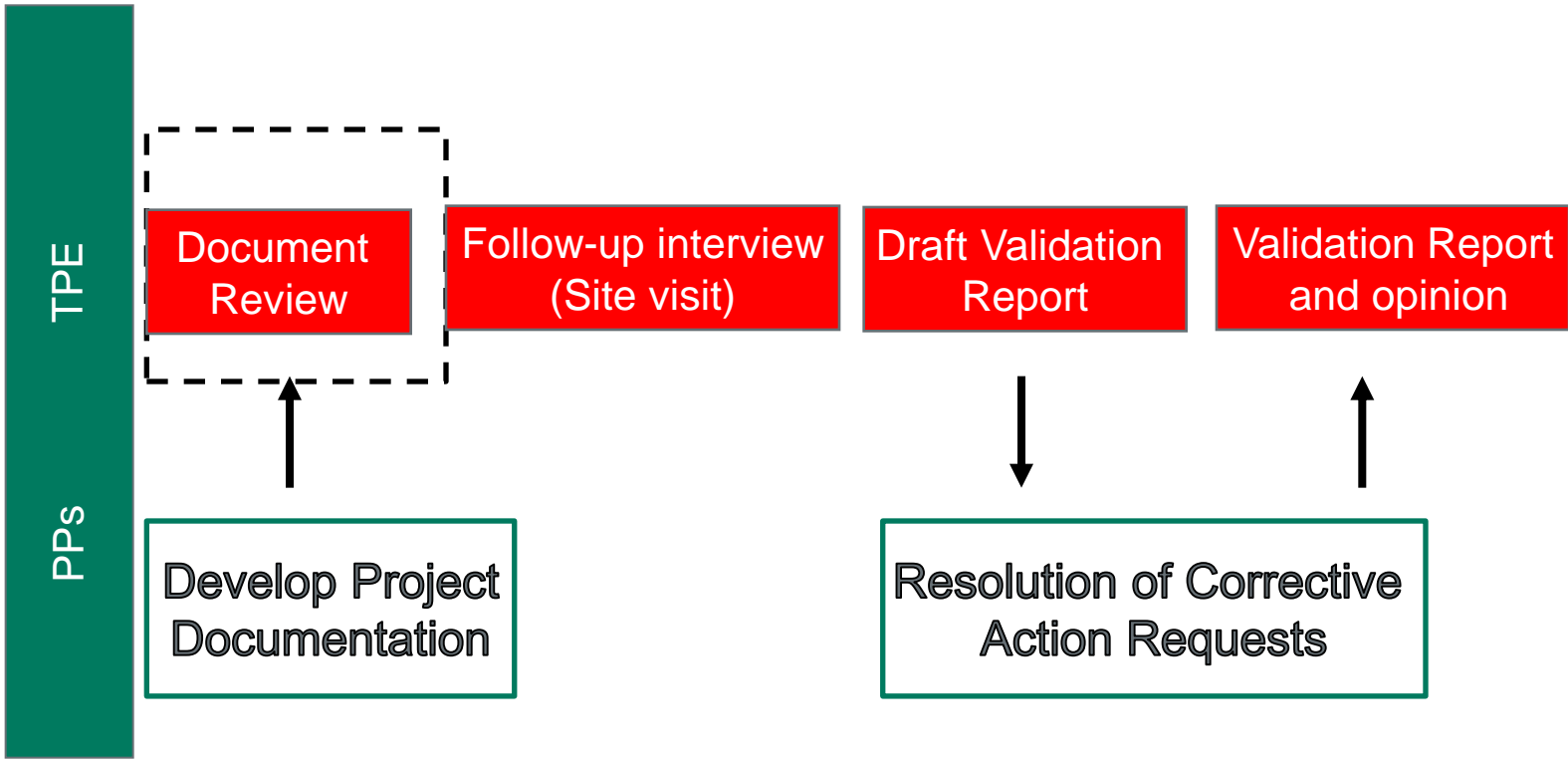
- a) shall not use personnel with an actual or potential conflict of interest
- b) shall not validate and verify GHG assertions from the same GHG project unless allowed by the applicable GHG programme;
- c) shall not validate or verify a GHG assertion where it provided GHG consultancy services to the responsible party that support the GHG assertion;
- d) shall not validate or verify a GHG assertion where a relationship with those who provided GHG consultancy services to the responsible party that support the GHG assertion poses an unacceptable risk to impartiality;

Avoidance of conflict of interest

- e) shall not validate or verify a GHG assertion using personnel who were engaged by those who provided GHG consultancy services to the responsible party in support of the GHG assertion;
- f) shall not outsource the review and issuance of the validation or verification opinion (see 8.5);
- g) shall not offer products or services that pose an unacceptable risk to impartiality;
- h) shall not state or imply that validation or verification of a GHG assertion would be simpler, easier, faster or less expensive if a specified GHG consultancy service were used.

3. Desk review

Implementation of validation



不許複製（弊社の許可なく複製・転載お断りいたします。）

Desk review

- Review PDD
- Understand the project, and the methodology
- Key risks and major issues

Also need to check;

- Scheme owners decisions relating to the project
- Other similar projects (registered, rejected, pending)
- Issues raised in recent requests for review, reject for similar projects

Desk review

- Risk assessment
- Identify material uncertainty
- Raising Requests (CLs, CARs, FARs)
- Decides the interviewees at follow-up interview stage

Identifying issues & Raising Requests

Corrective Action Requests (CARs):

- Mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- Scheme requirements have not been met;
- Risk that emission reductions cannot be monitored or calculated.

Clarification Requests (CLs):

- Insufficient or unclear information to conclude conformance of requirements

Forward Action Requests (FARs):

- to highlight issues related to project implementation that require review during the first verification of the project activity.
- FARs shall not relate to the requirements for registration

4. Assessment of PDD

Project Design Document (PDD)

Joint Crediting Mechanism Project Design Document Form

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

Country	
Region/State/Province etc.	
City/Town/Community etc.	
Latitude, longitude	

A.4. Name of project participants

Mongolia	
Japan	

A.5. Duration

Starting date of project operation	
Expected operational lifetime of project	

A.6. Contribution from developed countries

- PDD
- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction
- D. Environmental impact assessment
- E. Local stakeholder consultation
- Others,

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

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 ₁	Project diesel fuel consumption during the period of year y	5,000	kly	Option B	purchase records	- Collecting purchase amount from retailer invoices and inputting to a spreadsheet manually - Project deputy manager double check the input data with invoices every 5 months	once a month	
(2)	PEC ₁	Project electricity consumption during the period of year y	10,000	MWh/y	Option C	monitored data	- Collecting electricity consumption data with separate-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 ₂	Project LPG consumption during the period of year y	0	ty	N/A	N/A	N/A	N/A	N/A
(4)	PFC ₃	Project natural gas consumption during the period of year y	0	1000Nm ³ /y	N/A	N/A	N/A	N/A	N/A
(5)	PFC ₄	Project kerosene consumption during the period of year y	0	kly	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 _{ex-ante}	Percentage of improvement in energy consumption efficiency for (Office Building) using BEMS	22%	%	Part records of 30 similar size office buildings for the period of 2008-2012 measured by the project partner as 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
1,942	CO ₂ /y

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 reference data and specifications)

Option B: Based on the amount of transaction which is measured directly using measuring equipments (data used: contract evidence such as invoices)

Option C: Based on the actual measurement using measuring equipments (data used: measured values)

Excel sheet for Monitoring and calculation

不許複製（弊社の許可なく複製・転載お断りいたします。）

Assessment of PDD

Refer to:

1. Guideline.

- Guideline for Validation & Verification (VVM)
- Guideline for the Project Design Document

2. Other documents

- Applied Methodologies
- Other documents, information.

Conformance to Methodology

- Eligibility conditions
- Emission sources;
- Algorithms and/or formulae for emission reductions;
- Monitoring methodology

Assessment of PDD

A. Project Description

- Title of the project
 - Indicate technology and sector
- Technology applied
 - The purpose of the project;
 - Explanation of how reduce emissions
 - what type of technology
 - what measures are conducted
- Location of project,
 - Country, Region/State/Province etc.
 - City/Town/Community etc
 - Latitude, longitude

- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction
- D. Environmental impact assessment
- E. Local stakeholder consultation

不許複製（弊社の許可なく複製・転載お断りいたします。）

Assessment of PDD

- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction
- D. Environmental impact assessment
- E. Local stakeholder consultation

A. Project Description

■ Project Participants

■ Duration

Starting date of operation.

Expected operational lifetime.

The start of the operating date of the project does not predate January 1, 2013.

■ Contribution from developed countries

How developed countries contribute to implementation of project.
(finance, technology, training, support for O&M, etc)

Assessment of PDD

- A. Project Description
- B. Application of approved methodology**
- C. Emission Reduction
- D. Environmental impact assessment
- E. Local stakeholder consultation

B. Application of approved methodology

B.1 Selection of methodology.

- Registered?
- Name and number of approved methodology.
- Version.

- A. Project Description
- B. Application of approved methodology**
- C. Emission Reduction
- D. Environmental impact assessment
- E. Local stakeholder consultation

B. Application of approved methodology

B.2 Eligibility of applied methodology registered.

- Eligibility conditions

Conformance to the all eligibility conditions of the selected methodology. How the project meet?

- Other project applied the same methodology.

Assessment of PDD

- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction**
- D. Environmental impact assessment
- E. Local stakeholder consultation

C. Emission reduction

Emission sources

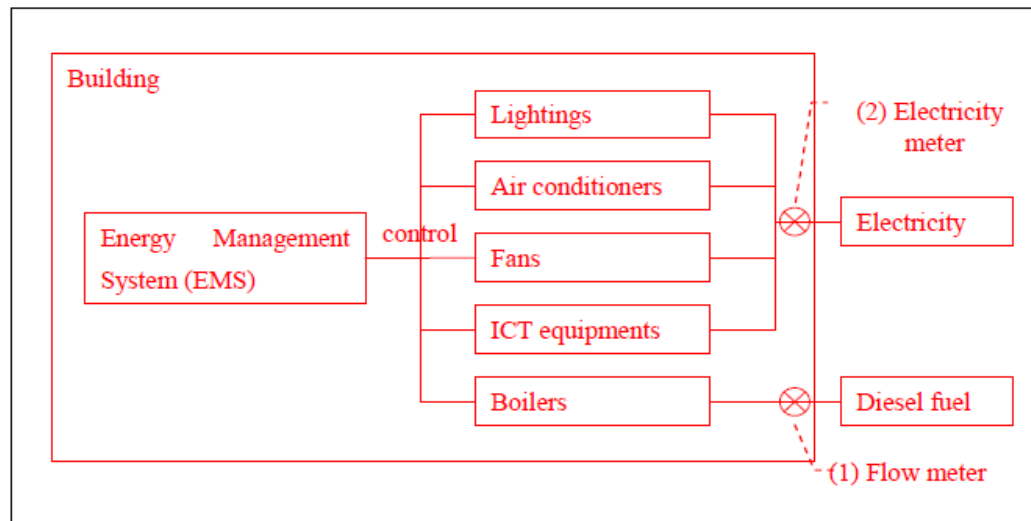
- Appropriateness of Boundary?
- Consider all Emission sources?
- Consider all seven greenhouse gases?
- Consider Leakage?

Assessment of PDD

- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction**
- D. Environmental impact assessment
- E. Local stakeholder consultation

C. Emission reduction

Emission sources: illustrate and describe emission sources and monitoring point.



Joint Crediting Mechanism Guidelines for Developing Project Design Document and Monitoring Report

不許複製（弊社の許可なく複製・転載お断りいたします。）

- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction**
- D. Environmental impact assessment
- E. Local stakeholder consultation

C. Emission reduction

(“*ex ante*” calculation)

- Are emission estimated based on reasonable?
- Monitoring Spreadsheet
 - not altered?
 - required fields ⇒filled in?
- fixed ex ante parameter

Assessment of PDD

- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction
- D. Environmental impact assessment**
- E. Local stakeholder consultation

D. Environmental impact assessment

- Project participants conducted EIA?
- EIA is legal requirement? ⇒ Yes or No
 - In line with countries requirement?

- A. Project Description
- B. Application of approved methodology
- C. Emission Reduction
- D. Environmental impact assessment
- E. Local stakeholder consultation

E. Local stakeholder consultation

- How the local stakeholder consultation?
 - How to identify the stakeholder?
 - What kind of measure?
 - Record of the consultation
 - How take account of the comments of stakeholder.

Monitoring Plan

Monitoring Plan

Two Excel sheet

- Monitoring Plan Sheet
- Monitoring Structure Sheet

1. Monitoring Plan Sheet

- Based on applied methodology?
- Parameters used
- Monitoring points
- Monitoring equipment

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

Table 1: Parameters to be monitored ex post

(1) Monitoring point No.	(2) Parameters	(3) Description of data	(4) Estimated Values	(5) Units	(6) Monitoring option	(7) Source of data	(8) Measurement methods and procedures	(9) Monitoring frequency	(10) Other comments
(1)	PFC _{DL}	Project diesel fuel consumption during the period of year y	5,000	kl/y	Option B	purchase records	- Collecting purchase amount from retailer invoices and recording in a spreadsheet manually - Project deputy managers should check the input data with invoices every 2 months	once a month	
(2)	PEC _e	Project electricity consumption during the period of year y	10,000	MWh/y	Option C	monitored data	- Collecting electricity consumption data with validated/calibrated electricity monitoring devices and recording in 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 _L	Project LPG consumption during the period of year y	0	kg/y	N/A	N/A	N/A	N/A	N/A
(4)	PFC _{NG}	Project natural gas consumption during the period of year y	0	1000km ³ /y	N/A	N/A	N/A	N/A	N/A
(5)	PFC _{LP}	Project propane consumption during the period of year y	0	kl/y	N/A	N/A	N/A	N/A	N/A

Table 2: Project-specific parameters to be used ex ante

(1) Parameters	(2) Description of data	(3) Estimated Values	(4) Units	(5) Source of data	(6) Other comments
EE _{RM,ex}	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 2009-2012 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
1500	1000 tCO ₂ e/y

Monitoring option

Option A: Based on public data which is measured by entities other than the project participants (Data used: public) (Accepted data set as statistical data and specifications)

Option B: Based on the amount of transaction which is measured directly using measuring equipments (Data used: commercial) (Accepted data set as financial)

Option C: Based on the data measurement using measuring equipments (Data used: measured) (Accepted)

1.1

不許複製（弊社の許可なく複製・転載お断りいたします。）

Monitoring Plan

Monitoring Plan Sheet and Monitoring Structure Sheet (Excel sheet)

2. Monitoring Structure Sheet

Related to data management system

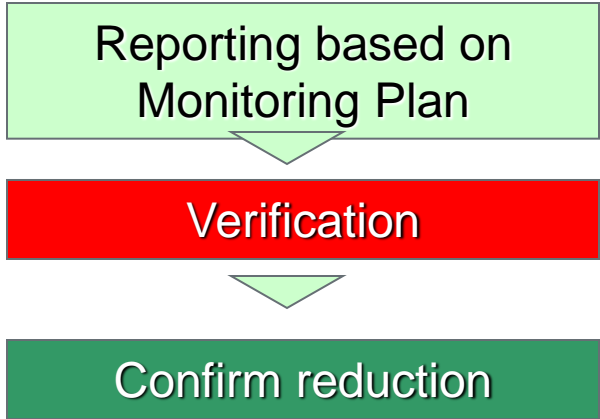
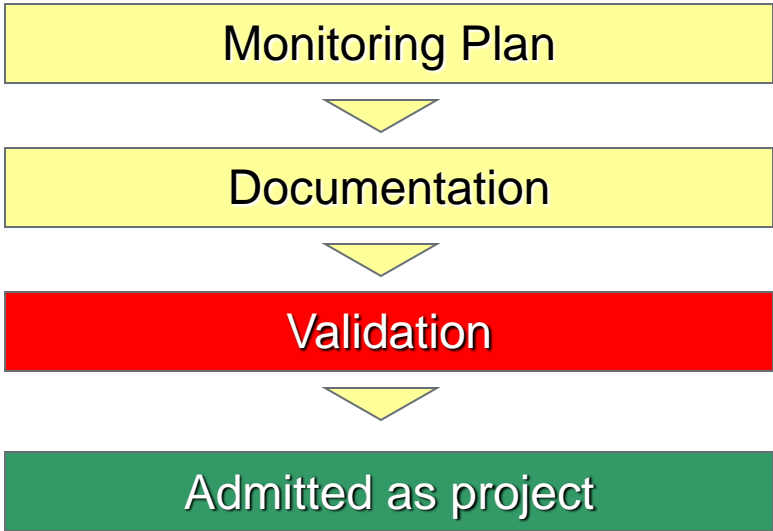
- Monitoring organization
- Procedure of QA/QC

Establish and apply quality management procedures to manage data and information.

Monitoring Spreadsheet: JCM-JP-MN-001 Ver.1.0

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.
N/A	N/A
N/A	N/A
N/A	N/A

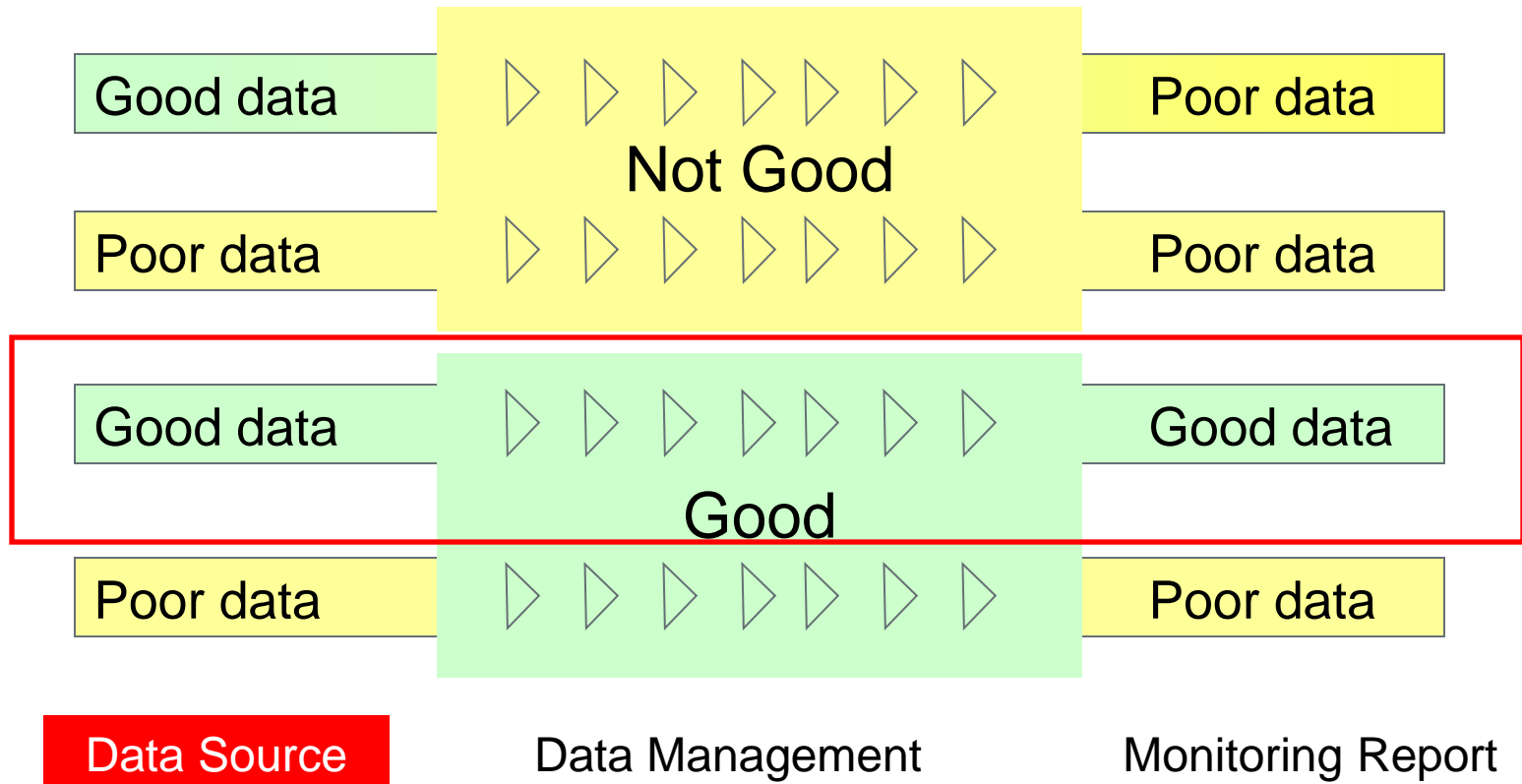
Monitoring and Reporting



不許複製（弊社の許可なく複製・転載お断りいたします。）

Data Quality

Data source and data management

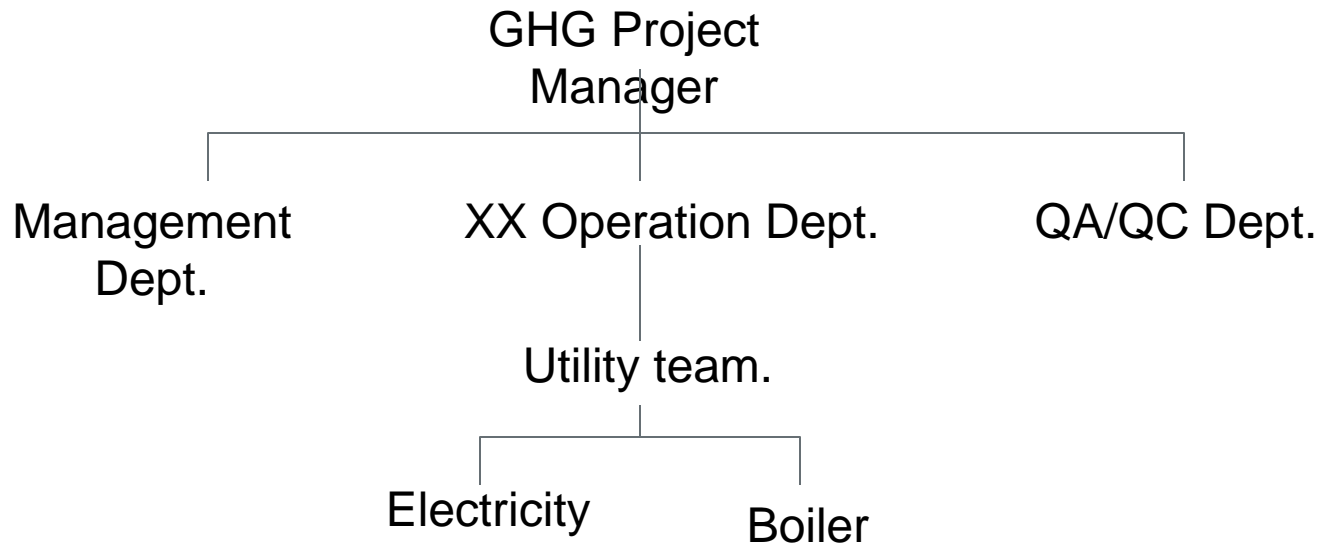


不許複製（弊社の許可なく複製・転載お断りいたします。）

Data Management

Organization chart

- Make sure the site is clear on who does what
- Check that the chart is accurate
- Check that training records of some sort are present



Other issue

Public inputs

- JCM secretariat makes PDD publicly available through the JCM website
- For 30 days.



Check all inputs are taken into account and reflect on PDD.

Other issue

Modalities of communications (MoC)

- Have to decide one focal point to communicate with Joint Committee, secretariat in line with and complete MoC to submit to the Joint Committee and the TPE with draft PDD.



Check all project participants, focal point in MoC, personal identities, specimen signatures, employment status, authorized signatories.

JCM Modalities of Communication Statement Form

Section 1: Project description	
Title of the project	
Country	
Date of Submission	dd/mm/yyyy

Section 2: Nomination of focal point entity	
Name of entity:	
Address (incl. postcode):	
Telephone:	Fax:
E-mail:	Website:
Primary authorised signatory:	Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>
Last name:	First name:
Title:	
Specimen signature:	Date: dd/mm/yyyy
Alternate authorised signatory:	Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>
Last name:	First name:
Title:	
Specimen signature:	Date: dd/mm/yyyy
Contact person:	Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>
Last name:	First name:
Title:	
Department:	
Mobile:	Direct tel.:
E-mail:	Direct fax:
USE THIS SECTION FOR POST-REGISTRATION SUBMISSIONS ONLY	Is this entity changing its name? Yes <input type="checkbox"/> (Former entity name:) No <input type="checkbox"/>
	Is the entity also a project participant? Yes <input type="checkbox"/> No <input type="checkbox"/>
	If the entity is also a project participant, do the same signatories represent it in its project participant role? Yes <input type="checkbox"/> No <input type="checkbox"/>

Avoidance of double registration

The proposed project shall not be registered under other international climate mitigation mechanisms.



Check projects with similar technology and location have been registered through websites of CDM and JI.