Seminar on JCM and Its Validation & Verification Bodies in Mongolia
Introduction of ISO14064 series, ISO14065 and ISO14066

25 June 2013, Ulaanbaatar

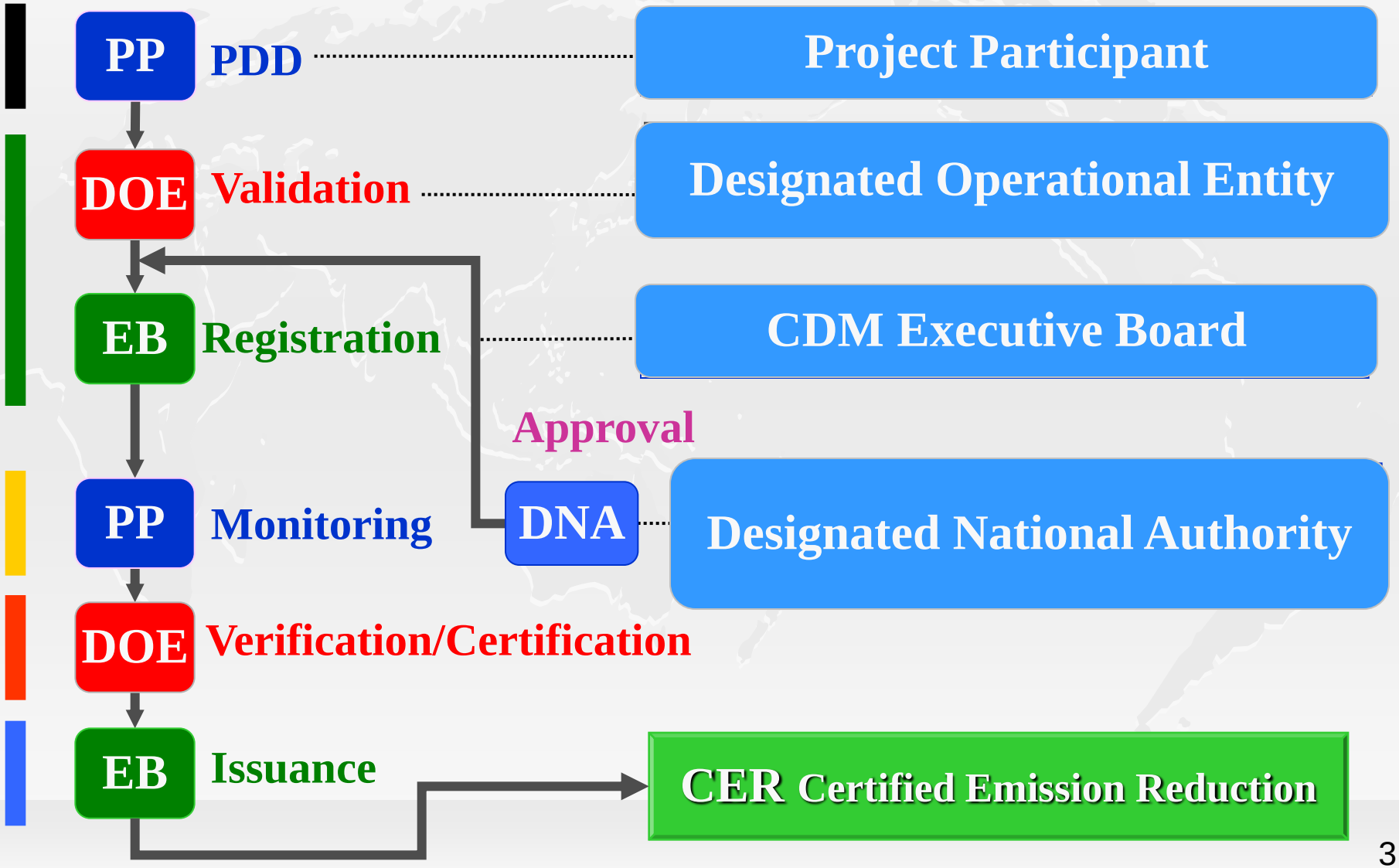
SHIGENARI YAMAMOTO, SHIGEO NIWA

JAPAN QUALITY ASSURANCE ORGANIZATION (JQA)

Contents

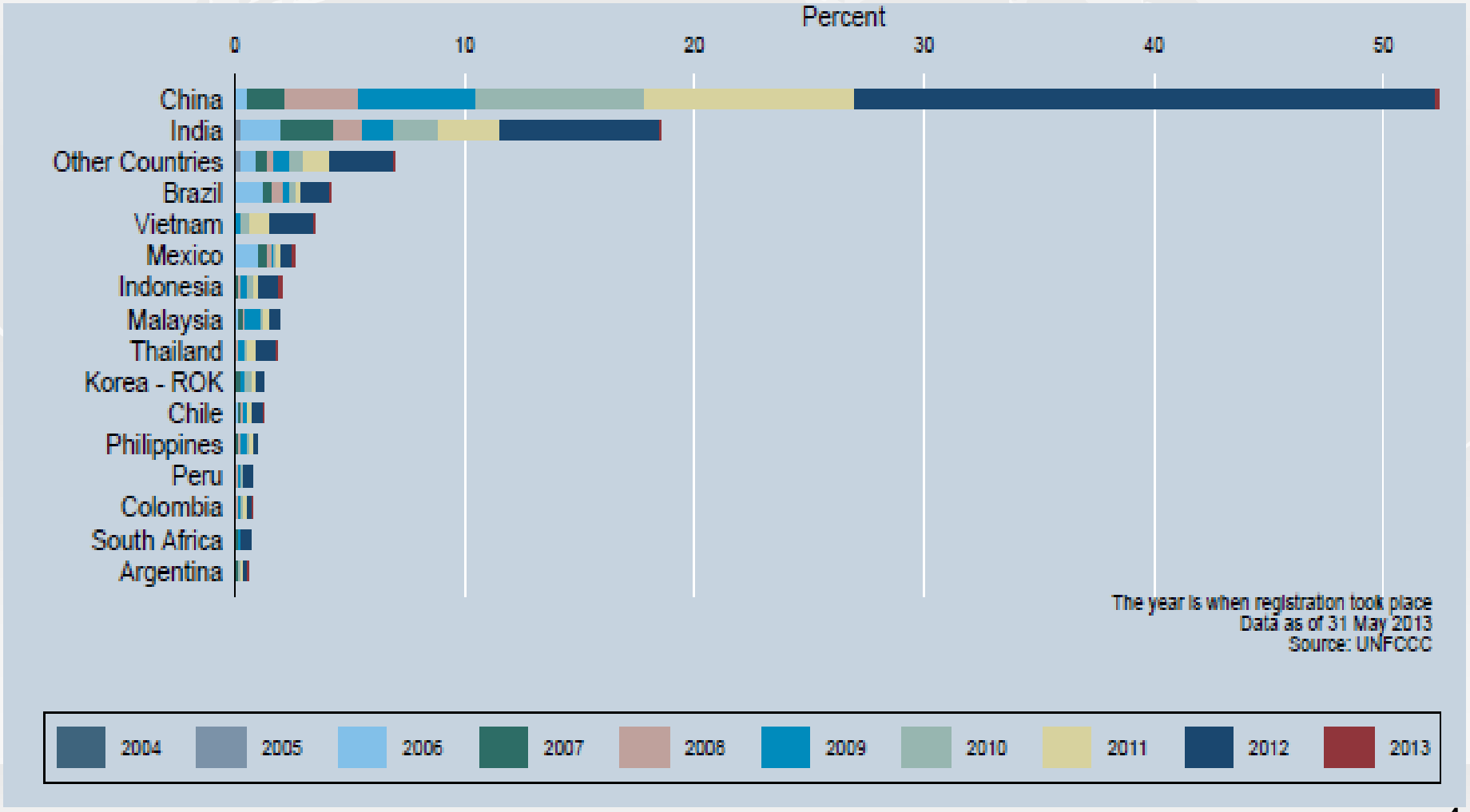
Ⅰ. Issues on the CDM and its resolution

1.CDM Project Activity Cycle



2. Distribution of registered projects by Host Party

Total registered projects activities: 6,898 as of 31 May 2013



3. Registered and Issued CDM Projects in Mongolia as of 15 June 2013

Ref No.	Title	Registered Date	First Issued Date
0295	A retrofit programme for decentralised heating stations in Mongolia.	28 Jul 2006	—
0787	Taishir Hydropower Project in Mongolia	16 Mar 2007	21 Jan2010
0786	Durgun Hydropower Project in Mongolia	23 Mar 2007	07 Jul 2011
5977	Salkhit Wind Farm	30 Mar 2012	—

4. The number of days required for the registration/issuance of the CDM project (2004.10～2012.6：IGES CDM Database)

- 488days: ①PDD publication – ②Project registration
- 640days:②Project registration – ③Issuance of CERs
- 1,072days: ①PDD publication – ③Issuance of CERs

5. Issues on the CDM

①Capacity building: National Approval system, Statistical data, National metrology system to ensure the accuracy-assured measurements, etc.

②Difficulties of PPs' project development independently: due to **the complexity and ambiguity of the requirements**, the PPs need to rely on the CDM expert (consultant, DOE, etc.)

③Two-stage assessment, by DOE (1st), CDM EB (2nd):
E.g.
1st stage: DOE⇒OK, 2nd stage: CDM EB⇒NG

Reassessment by DOE in case CDM EB overrides the decision by DOE.

⇒ One of main reason in prolonging validation/verification)

Ⅱ. Key to improve the scheme bearing in mind CDM experience

1. Key to improve the scheme bearing in mind CDM experience

- The key to promoting JCM（Joint Crediting Mechanism）is establishment of:

  ①The scheme is flexible and suitable to the circumstance of each country.

  ②The scheme in which the local project participants could independently manage the monitoring activities in order to credibly quantify emission reductions.

⇒ essential part of the success of JCM

Ⅲ. COP17&18 Decision relative to the JCM (Joint Crediting Mechanism)

Ⅲ. COP17&18 Decision relative to the JCM

- **JCM is the Japan's proposed various approach governed by "de-centralized" structure**, according to the decision "Parties may, individually or jointly, develop and implement such approaches in accordance with their national circumstances" in "Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention" (COP17&18) .
- JCM **must meet standards and deliver verified mitigation outcomes** (para 79:COP17, para45:COP18), which will be decided by UNFCCC, in addition, obtain the consensus from the Parties involved.

1. COP18 "Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention"

E. **Various approaches**, including opportunities for **using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions**, bearing in mind **different circumstances of developed and developing countries**

1. COP18 "Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention"

1. Framework for various approaches

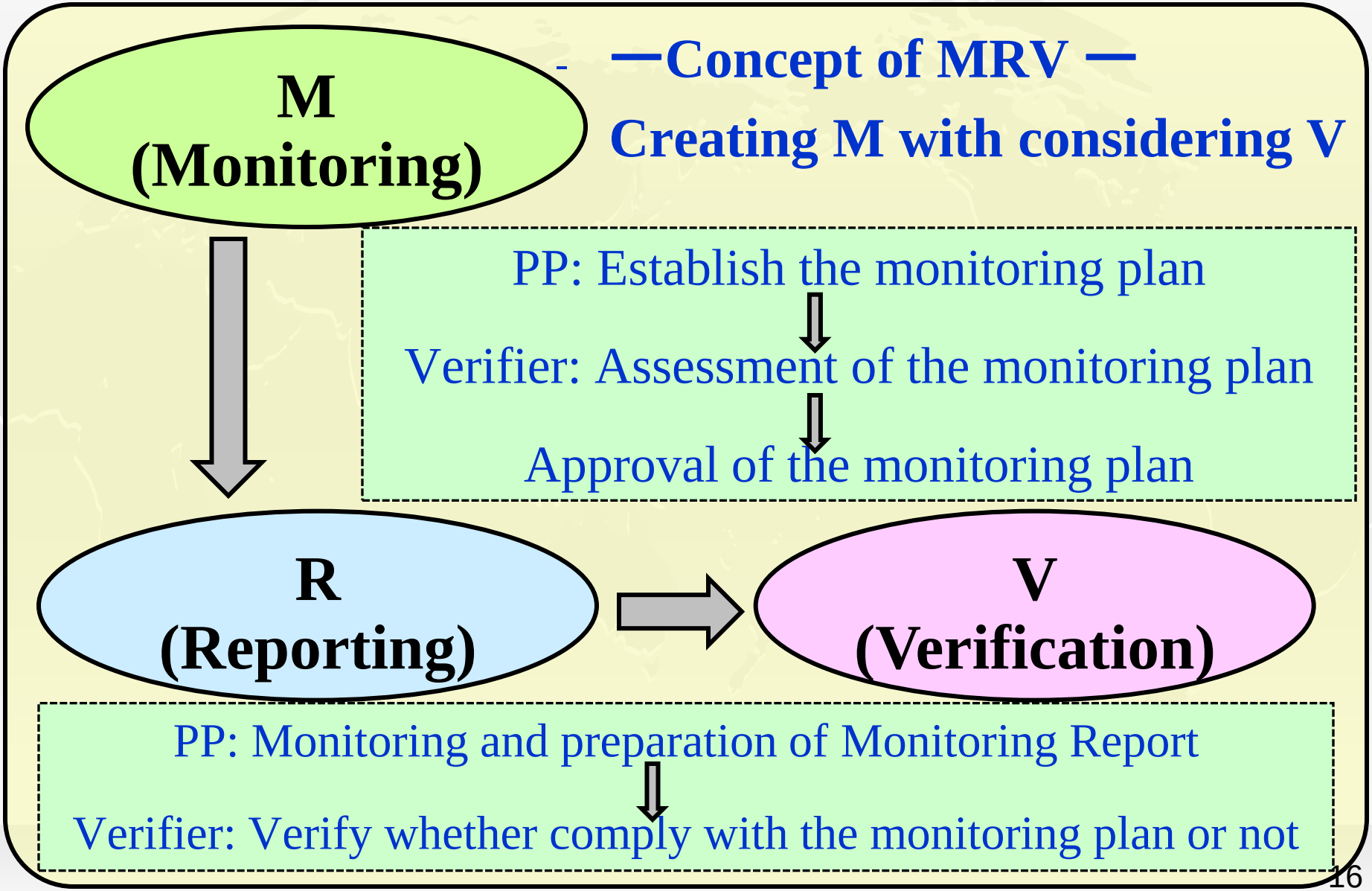
44. Acknowledges that **Parties, individually or jointly, may develop and implement various approaches**, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, **bearing in mind different circumstances of developed and developing countries**;

1. COP18 "Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention"

45. *Re-emphasizes* that, as set out in decision 2/CP.17, paragraph 79, **all such approaches must meet standards** that deliver real, permanent, additional and **verified mitigation outcomes**, avoid double counting of effort and achieve a net decrease and/or avoidance of greenhouse gas emissions;

Ⅳ. Concept of JCM MRV

1. Concept of JCM MRV



2. Main player and Supporter

- **Main player of the scheme: PP** (responsible for the GHG emission reductions/removal)
- **Others: Supporter** (Scheme owner, Consultant, Verification Body, NGO, Experts)

Key to success: Management and Operation of project activities（including monitoring activities） by PP (Main player) independently

3. Monitoring Plan (Most Important)

Documents for PPs

Documents for Verification Entity

Monitoring Plan

Section XX Data and parameters to be monitored	
Parameter No.1	
Parameters	EGy
Description of data	Net electricity supplied to the grid
Estimated Values	10,000
Units	MWh/y
Monitoring Pattern	pattern B
Source of data	Sales and Purchase Invoices
Measurement methods	Invoices issued by the grid company
Monitoring Frequency (Monitoring, Reading, Recording frequency)	Monitoring: – Reading: Once a month Recording: Once a month
QA/QC Procedures	PP checks the data from invoices with the data monitored by backup meters. The conservative amount after the cross-check is to be used for the calculation of ERs. The backup meters are to be verified at least every three years in accordance with the national regulation.
Other Comments	NA

Monitoring Report

Section XX Data and parameters to be monitored	
Parameter No.1	
Parameters	EGy
Description of data	Net electricity supplied to the grid
Monitored Values	9,800
Units	MWh/y
Monitoring Pattern	pattern B
Source of data	Sales and Purchase Invoices
Measurement methods	Invoices issued by the grid company
Monitoring Frequency (Monitoring, Reading, Recording frequency)	Monitoring: – Reading: Once a month Recording: Once a month
QA/QC Procedures	PP checks the data from invoices with the data monitored by backup meters. The conservative amount after the cross-check is to be used for the calculation of ERs. The backup meters are to be verified at least every three years in accordance with the national regulation.
Other Comments	NA
If there are any changes from the registered monitoring plan such as calibration delay, please summarized the changes.	☐ No changes ☐ Changes occurred (If changes occurred, summarize the fact and reason)

Monitoring Report

Verification Report

Section XX Data and parameters to be monitored	
Parameter No.1	
Check if the information such as "Parameters", "Description of data", "Units" in the registered monitoring plan is correctly applied in the monitoring report.	☐ Yes ☐ No (*If No, summarize the fact and reason*)
Check if "Monitored Values" are correct.	☐ Yes ☐ No (*If No, summarize the fact and reason*)
Check if "Monitoring Pattern" and "Source of data" are in line with the registered monitoring plan.	☐ Yes ☐ No (*If No, summarize the fact and reason*)
Check if "Measurement methods and procedures" is in line with the registered monitoring plan and explain how the entity verified it.	☐ Yes ☐ No (*If No, summarize the fact and reason*) – how the team verified ☐DR (*evidences/measures*) ☐SV (*evidences/measures*) ☐Others (*evidences/measures*)
Check if "Monitoring Frequency (Monitoring, Reading, Recording frequency)" is line with the registered monitoring plan.	– Monitoring frequency: ☐ Yes ☐ No (*If No, summarize the fact and reason*) – Reading frequency: ☐ Yes ☐ No (*If No, summarize the fact and reason*) – Recording frequency: ☐ Yes ☐ No (*If No, summarize the fact and reason*)
Check if "QA/QC Procedures" was implemented as per the registered monitoring plan and explain how the entity verified it.	(For each QA/QC procedure) ☐ Yes ☐ No (*If No, summarize the fact and reason*) – how the team verified ☐DR (*evidences/measures*) ☐SV (*evidences/measures*) ☐Others (*evidences/measures*)
Check if there are any changes from the registered monitoring plan such as calibration delay. If the entity identifes the changes, describe how the chages have been treated.	☐ No changes ☐ Changes occurred (*If changes occurred, summarize the fact and reason*) – If changes were identified, how the team treated them. () ☐As per BOCM manual (*describe the* … *of measures*

The Monitoring Plan taken into account of the Verification is most important.

4. Monitoring Step

Step1：Establishment of Monitoring plan (PP)

↓

Step2：Approval (authorization) of Monitoring plan (Verification Body:Validation)

↓

Step3： Monitoring activities in accordance with Monitoring plan (PP)

↓

Step4：Preparation of Monitoring Report based on the monitoring results (PP)

↓

Step5： Verification of Monitoring Report (Verification Body)

5. Verification procedures

Before the execution of agreement

Step 1 : Receipt of application for verification service from client

Step 2 : Contract review

- check if
  - there exists any conflict of interests between client and verification body **(Entity level)**;
  - the verification body has necessary competence to take up the project.

(if no conflict of interests exists & the body has necessary competence)

Agreement and team assignment

Step 3 : Execution of agreement

5. Verification procedures

Before the execution of agreement

Agreement and team assignment

Verification Work

Step 3：Execution of agreement

Step 4： Assignment of team member

- check if

  - there exists any conflict of interests between the project and assigned verifier **(Personal level)**;

  - the assigned member has knowledge of technical process, project design, applied methodology and local expertise.

5. Verification procedures

Verification Work (Assess the MP)

Step 5：Assessment of Monitoring Plan (MP)

- Compliance with the methodology applied
- On-site check if the monitoring system including data collection procedures based on the traceable evidences is established according to the MP

Verification Work (Assess the MR)

Step 6： Assessment of Monitoring Report (MR)

- On-site check if the monitoring is conducted according to the MP
- Check the monitoring results by traceable evidences (e.g. original operation data/records as primary evidence)

5. Verification procedures

Verification Work (Prepare the VeR)

Step 7：Preparation of Draft Verification Report (DVeR) by the team

⇩

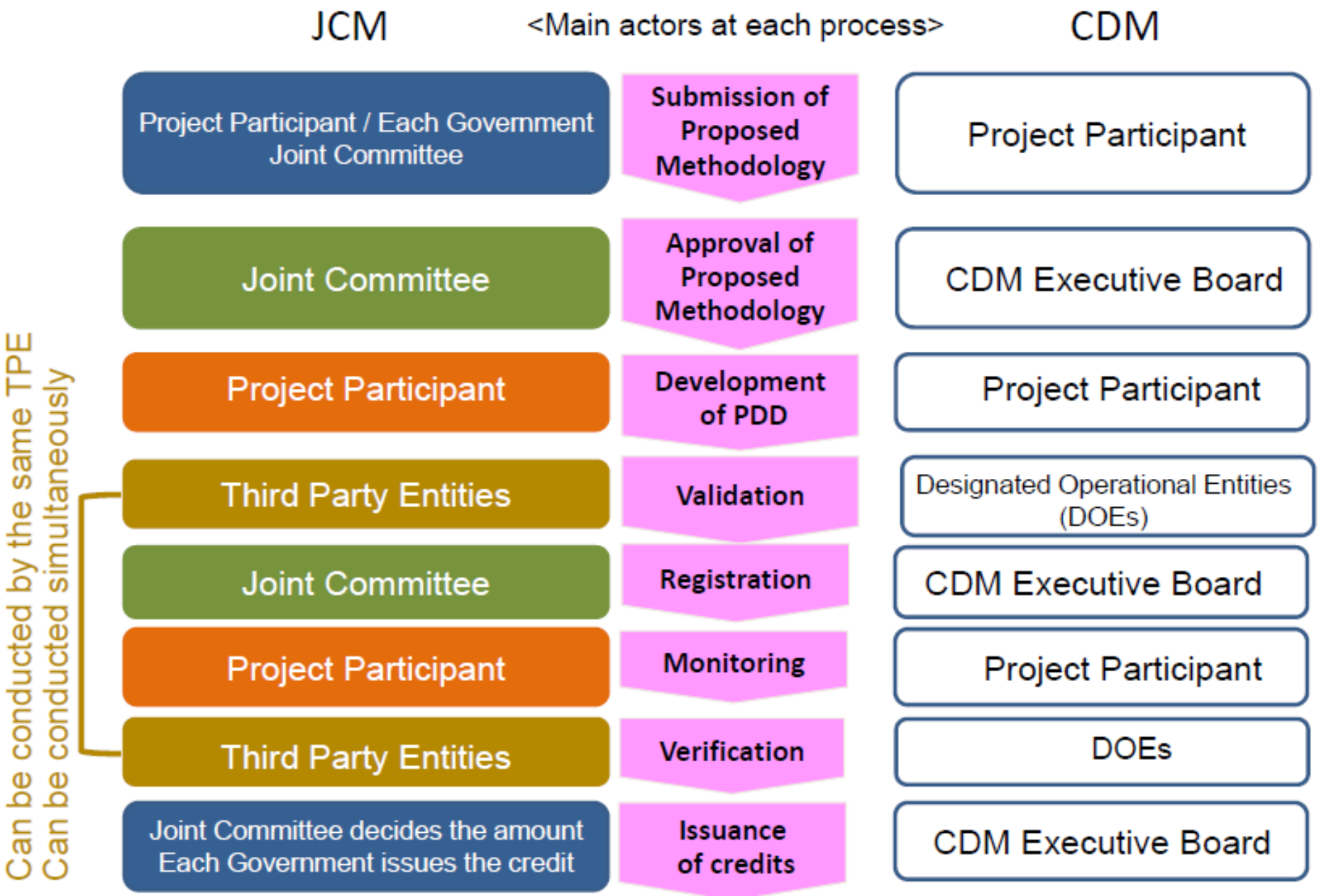
Step 8： Technical Review

⇩

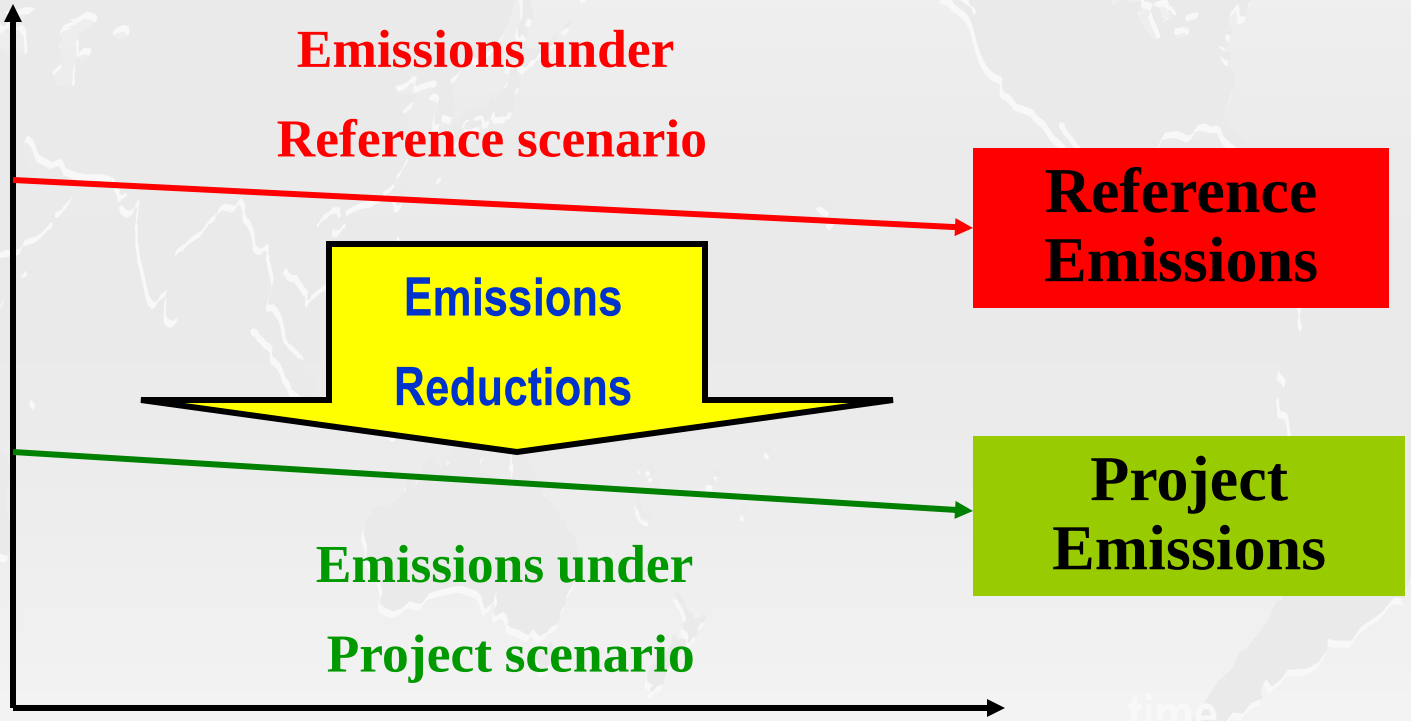
Step 9：Authorization of Verification Report (VeR)

V. Project Cycle of the JCM and the CDM

1. Project Cycle of the JCM and the CDM



2. Reference Emissions and Project Emissions



VI. ISO14064 series, ISO14065 and ISO14066

1. ISO TC 207/SC 7 :Greenhouse gas management and related activities

- **ISO 14064-1:2006 (First edition)**

Specification with guidance **at the organization level for quantification and reporting** of greenhouse gas emissions and removals

- **ISO 14064-2:2006 (First edition)**

Specification with guidance **at the project level for quantification, monitoring and reporting** of greenhouse gas emission reductions or removal enhancements

- **ISO 14064-3:2006 (First edition)**

Specification with guidance for the **validation and verification** of greenhouse gas assertions

1. ISO TC 207/SC 7 :Greenhouse gas management and related activities

- **ISO 14065:2013 (Second edition) : (2007:First edition)**

Requirements for greenhouse gas **validation and verification bodies for use in accreditation or** other forms of recognition

- **ISO 14066:2011 (First edition)**

Competence requirements for greenhouse gas **validation teams and verification teams**

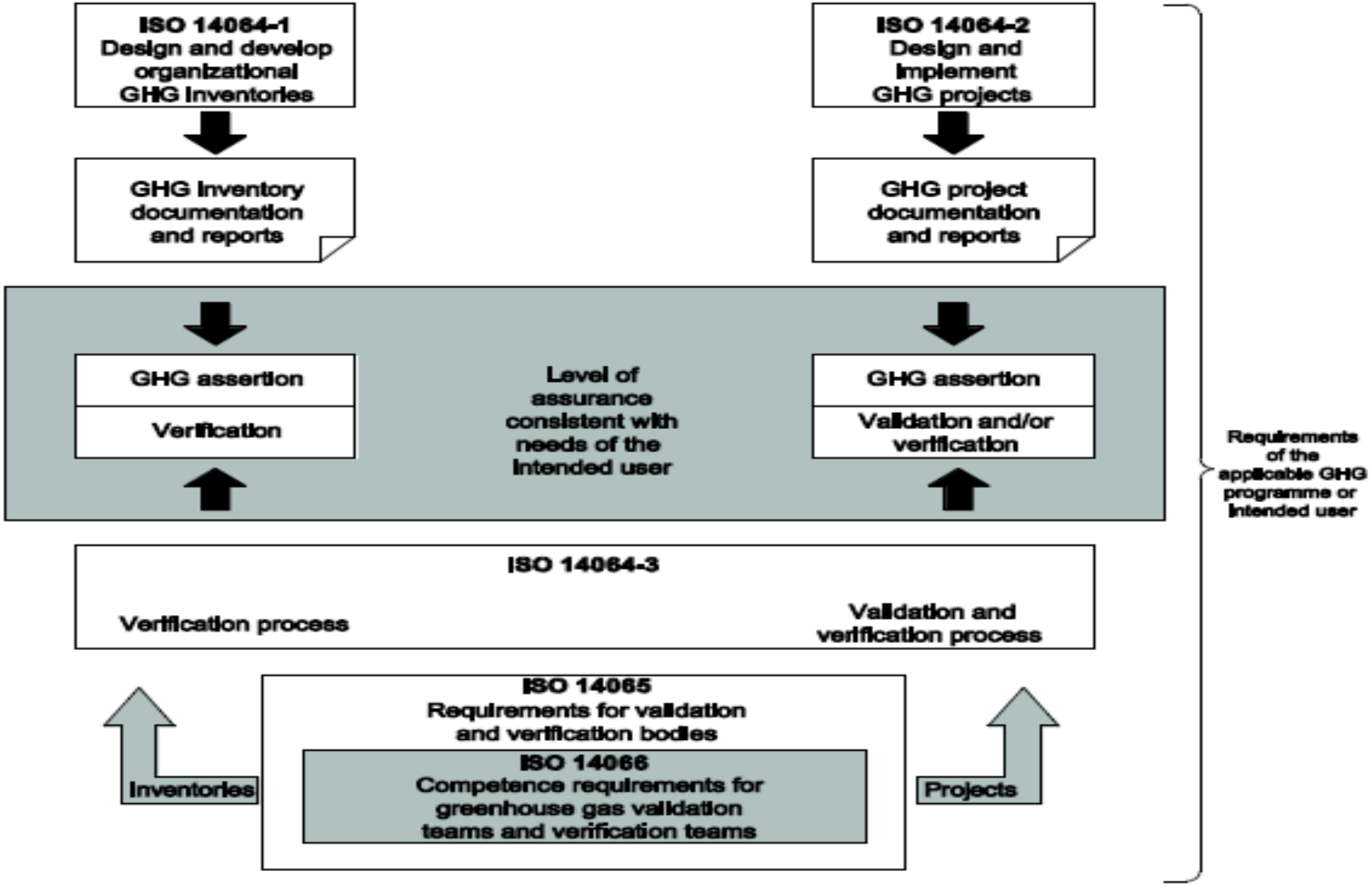
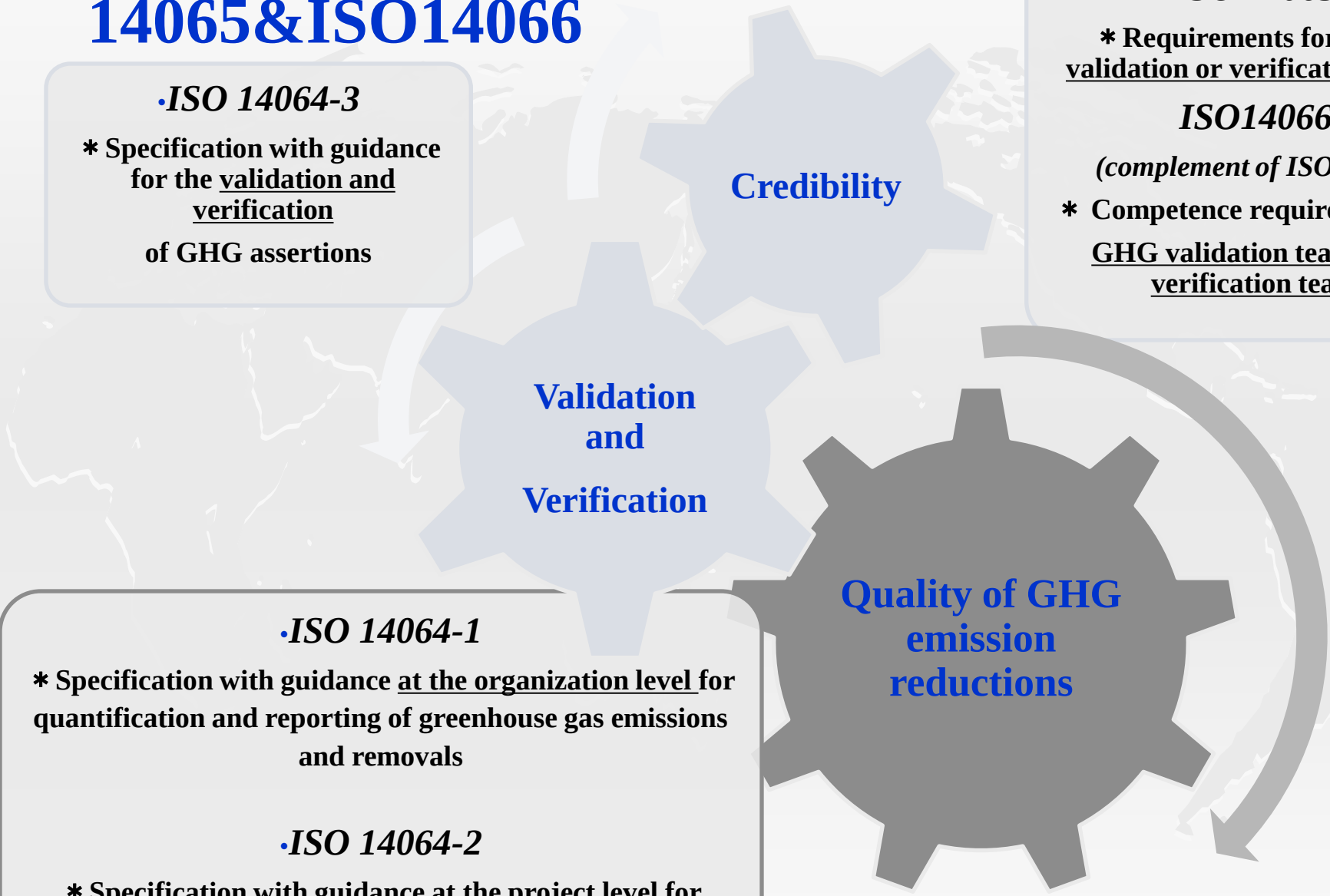


Figure 1 — Framework for using ISO 14066 with ISO 14064-1, ISO 14064-2, ISO 14064-3 and ISO 14065

ISO14065:2013 Second edition

2. Abstract of ISO14064-series& 14065&ISO14066



ISO 14065

∗ Requirements for GHG validation or verification bodies

ISO14066

(complement of ISO14065)

∗ Competence requirements for GHG validation teams and verification teams

- ***ISO 14064-3***

∗ Specification with guidance for the validation and verification of GHG assertions

- ***ISO 14064-1***

∗ Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

- ***ISO 14064-2***

∗ Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

I. Organization of Validation or Verification Body

1. Legal Entity: 5.1, 5.2,
2. Affiliation with Other Parts of Validation or Verification Body: 5.3,
3. Adequacy for Financial Reserve: 5.5,

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

I. Organization of Validation or Verification Body

4. Terms of Reference

---Top Management: 5.3,

---Validation or Verification Personnel: 5.3, 6.2 d),

----External Validator or Verifier: 6.4,

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

II. Human Resources: 6.2 e),

1. Qualification for Required Competence: 6.1, 6.2 f) and g),

Appendix: Preparation for technical knowledge by sectoral scope

Model: Sector Technical Knowledge

Sectoral Scope	Title	Typical group of activities and GHG emissions	Required sector technical knowledge
2	Renewables	Typical activities: -Power and heat generation from renewable energy sources, including construction of new plants, capacity increases, plant retrofitting, energy efficiency and fuel switching.	-Renewable thermal and power plants engineering (hydro, wind, solar, geothermal, wave and tidal) (excluding biomass); -Design features and operational characteristics of renewable thermal and power plants (hydro, wind, solar, geothermal, wave and tidal); -Renewables and intermittency: the evaluation of the potential of power and heat generation and load factors for renewable energy plants (hydro, wind, solar, geothermal, wave and tidal); -Hydropower plants: accumulation and run-of-river reservoirs, hydrological forecasting and load factor evaluation, emissions from reservoirs, upstream emissions; - Wind power plants: wind forecasting and

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

II. Human Resources

Appendix: Preparation for competence evaluation sheet for qualification of top management, validator or verifier, technical expert and support personnel

Requirement	Evidence	Evaluation	Conclusion

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

II. Human Resources

2. Initial Competence Analysis of Validation or Verification Body (Business Plan): 6.2 a), b) and c), 8.2.2,

3. Qualification of Validation or Verification Team for Required Competence: 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.6,

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

II. Human Resources

Appendix: Preparation for competence evaluation sheet for qualification of validation or verification team

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013 13

II. Human Resources

4. Qualification of Validation or Verification Team Leader for Required Competence: 6.3.7,

Appendix: Preparation for competence evaluation sheet for qualification of validation or verification team leader

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

II. Human Resources

5. Periodical Performance Assessment of Validation or Verification Personnel: 6.2 h),

6. Educational Training for Validation or Verification Personnel: 6.2 i),

7. Personnel Record: 6.5,

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

II. Human Resources

8. Outsourcing of Validation or Verification Function: 6.6,

Appendix: Preparation for Template of Validation or Verification Service Outsourcing Agreement

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

III. Contract Review

1. Review of Information upon Application for Validation or Verification Service: 8.2.1

   (Impartiality), 8.2.2 (Initial Competent Analysis based on Project),

2. Execution of Validation or Verification Service Agreement: 5.2, 8.2.3,

Appendix: Preparation for Template of Validation or Verification Service Agreement

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

III. Contract Review

3. Execution of Validation or Verification Service Engagement Agreement: 6.4,

Appendix: Preparation for Template of Validation or Verification Service Engagement Agreement

4. Selection of Competent Validation or Verification Team Leader: 8.2.4

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

III. Contract Review

5. Selection of Competent Validation or Verification Team: 6.3.1, 8.3.1, 8.3.2,

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

IV. Validation or Verification Process

1. Communication with Project Participant(s): 7.1, 7.2, 8.3.2,

2. Desk Review: 8.3.3,

3. Validation or Verification Plan: 8.3.3.

4. Assessment of GHG Assertion: 8.4, 8.5 a),

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

IV. Validation or Verification Process

5. Technical Review: 8.5 b),

6. Determination of Validation or Verification: 5.2

7. Issuance of Validation or Verification Statement: 8.5,

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

IV. Validation or Verification Process

8. Revision of Validation or Verification Statement: 8.7,

9. Appeal of Validation or Verification Statement: 9,

10. Complaint against Validation or Verification: 10,

11. Re-Validation or Re-Verification: 11,

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

V. Safeguard of Impartiality: 5.4.1, 5.4.2, 5.4.3,

VI. Confidentiality Obligation: 7.3, 7.5,

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

VII. Management System

1. Validation or Verification Policy: 12. a),

2. Public Availability of Information relevant to Validation or Verification: 7.4,

3. Management and Retention of Documents relevant to Validation or Verification: 7.5, 8.6, 12. b), 12.c),

Ⅶ. Procedure for JCM Operation: Required Contents based on ISO14065:2013

VII. Management System

4. Internal Audit: 12. d),

5. Corrective and/or Preventive Action(s): 12. e), 12. f),

6. Management Review: 12. G),

Ⅷ. References

- Draft decision -/CP.18 “Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention”
- 「IGES GHG Emissions/Market Mechanisms Databases」
  http://www.iges.or.jp/en/climate-energy/mm/publication.html
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories”
  http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html
- CDM Home Page “CDM Insights - intelligence about the CDM at the end of each month”
  http://cdm.unfccc.int/Statistics/Public/index.html
- ISO14064series, ISO14065 and ISO14066
- Government of Japan, May 2013 “Recent Development of The Joint Crediting Mechanism (JCM)/ Bilateral Offset Credit Mechanism (BOCM)”

http://www.meti.go.jp/policy/energy_environment/global_warming/pdf/201305_JCM_ENG.pdf

THANK YOU!

Shigenari Yamamoto, Shigeo Niwa
Japan Quality Assurance Organization (JQA)
1-25, Kandasudacho, Chiyoda-ku,
Tokyo 101-8555, Japan
yamamoto-shigenari@jqa.jp, niwa-shigeo@jqa.jp