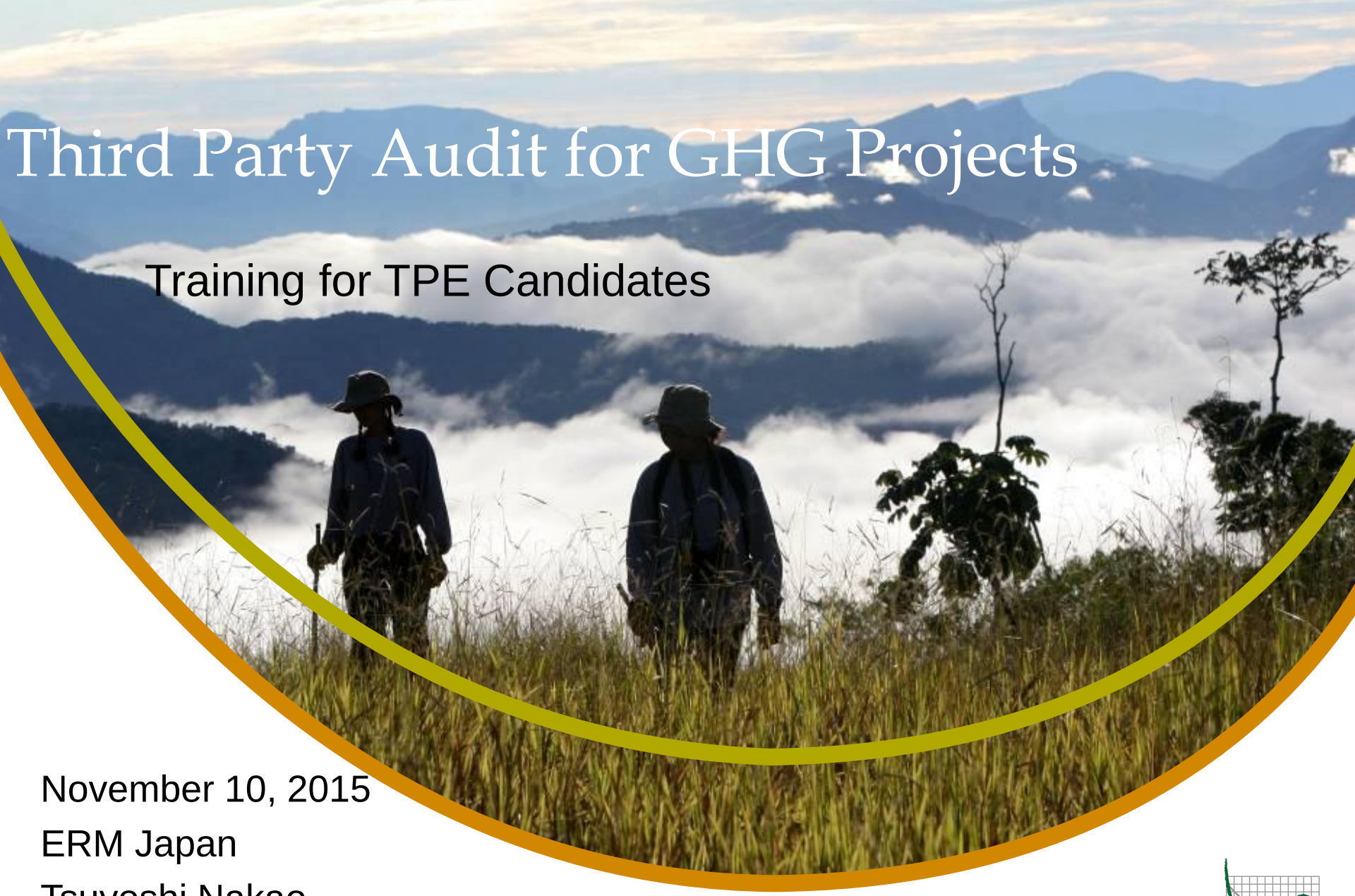
Third Party Audit for GHG Projects

Training for TPE Candidates



November 10, 2015

ERM Japan

Tsuyoshi Nakao

ERM

- Joint Crediting Mechanism (JCM)
- Registration of Methodology
- PDD and Registration as a JCM project
- Monitoring and Issue of Credit
- Validation and Verification

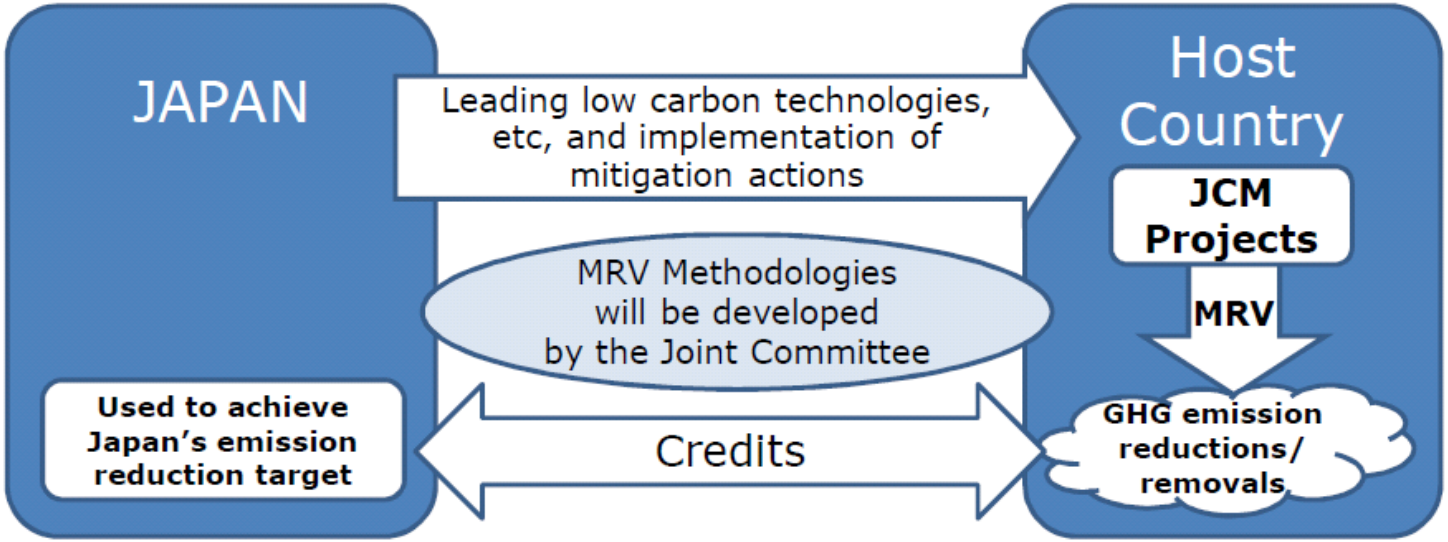
1. Joint Crediting Mechanism (JCM)

Basic Concept of the JCM

Facilitating diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.

Appropriately evaluating contributions to GHG emission reductions or removals from Japan in a quantitative manner, by applying measurement, reporting and verification (MRV) methodologies, and use them to achieve Japan's emission reduction target.

Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals, complementing the CDM.



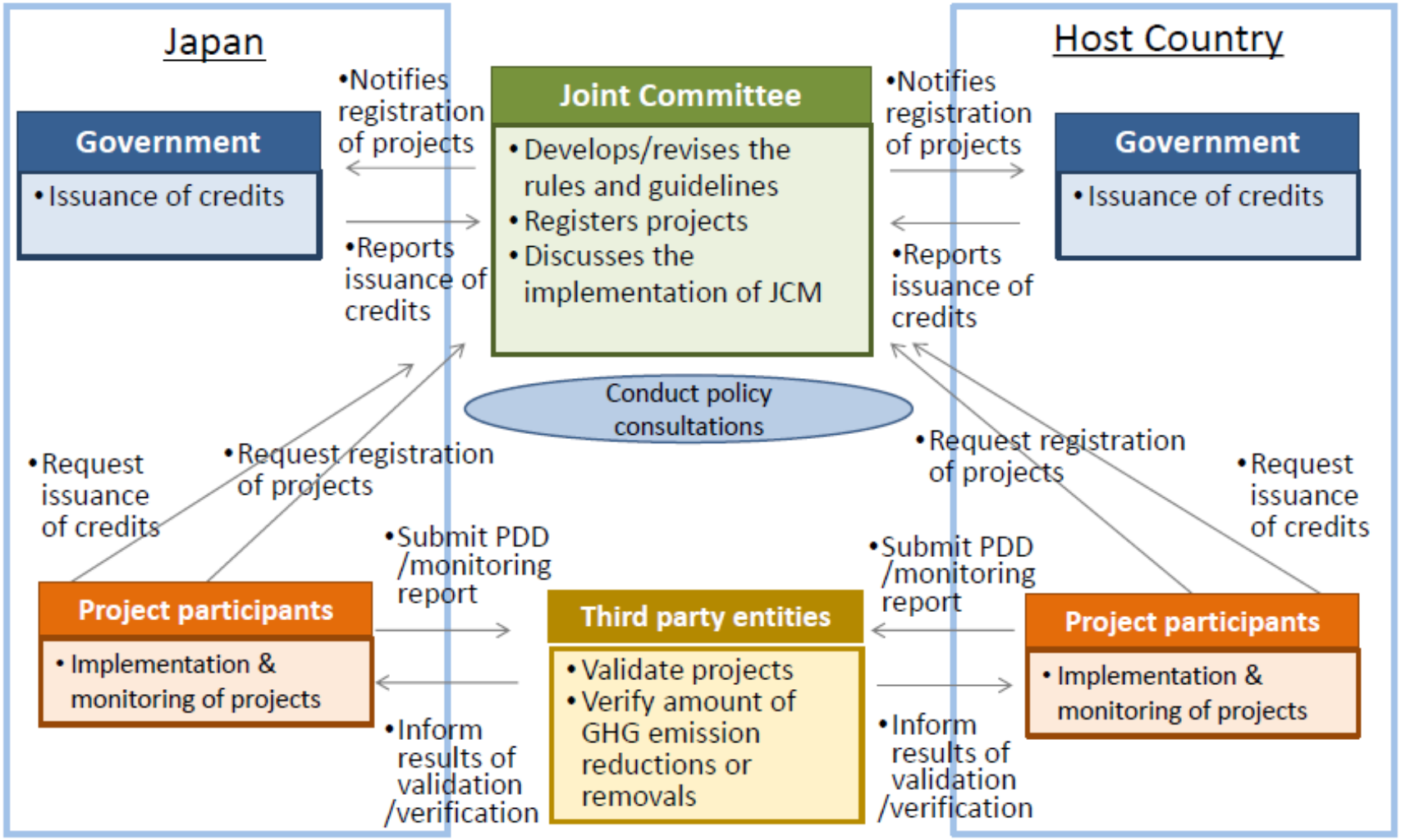
Refer to "Recent Development of The Joint Crediting Mechanism (JCM)" Japanese Government, 2014,

Features of the JCM

(1) The JCM starts its operation as the non-tradable credit type mechanism.
(2) Both Governments continue consultation for the transition to the tradable credit type mechanism and reach a conclusion at the earliest possible timing, taking account of implementation of the JCM.
(3) The JCM aims for concrete contributions to assisting adaptation efforts of developing countries after the JCM is converted to the tradable credit type mechanism.
(4) The JCM covers the period until a possible coming into effect of a new international framework under the UNFCCC.

Refer to “Recent Development of The Joint Crediting Mechanism (JCM)” Japanese Government, 2014,

Governance Scheme of the JCM

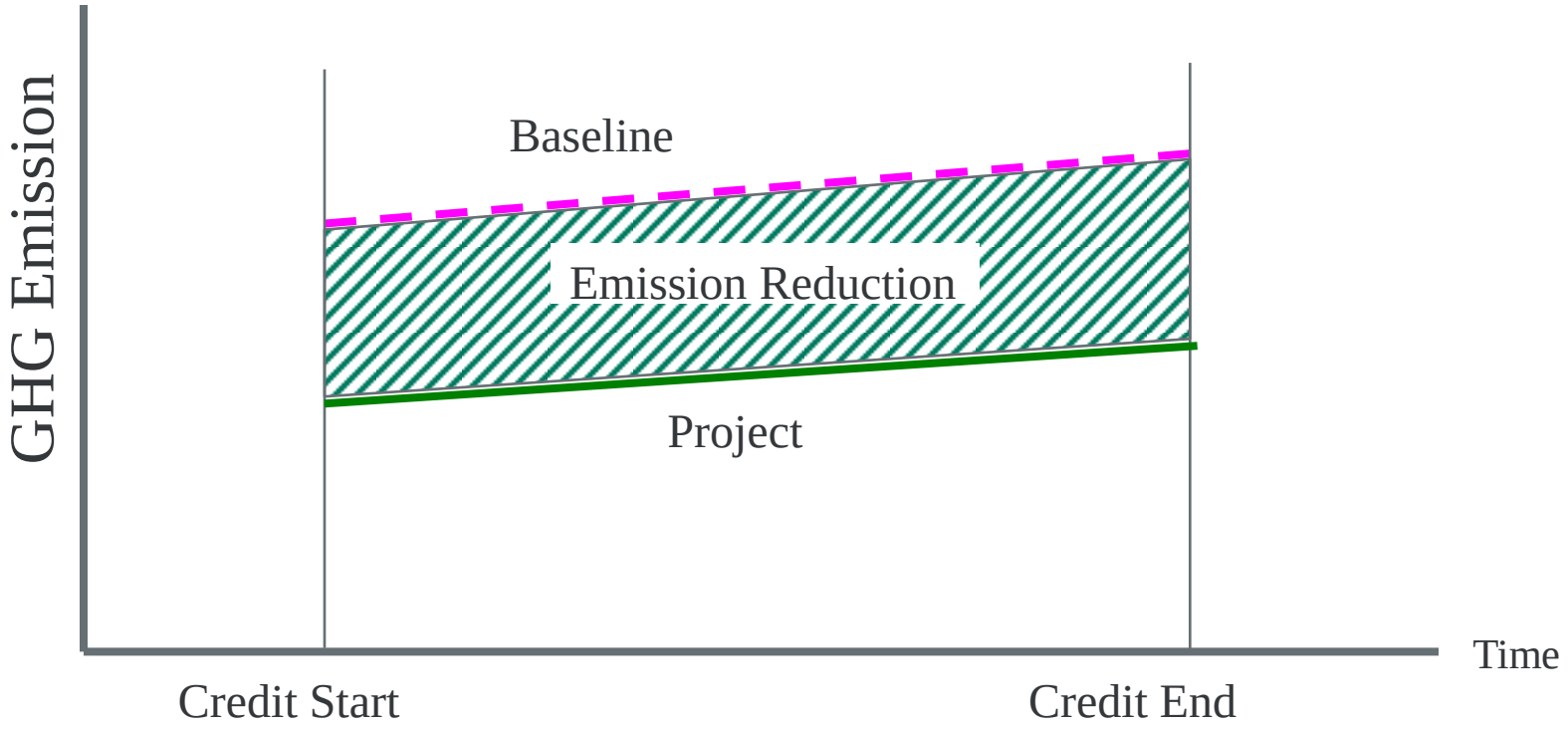


Refer to “Recent Development of The Joint Crediting Mechanism (JCM)” Japanese Government, 2014,

Basic Concept for Crediting under the JCM

Emission reduction is determined by;

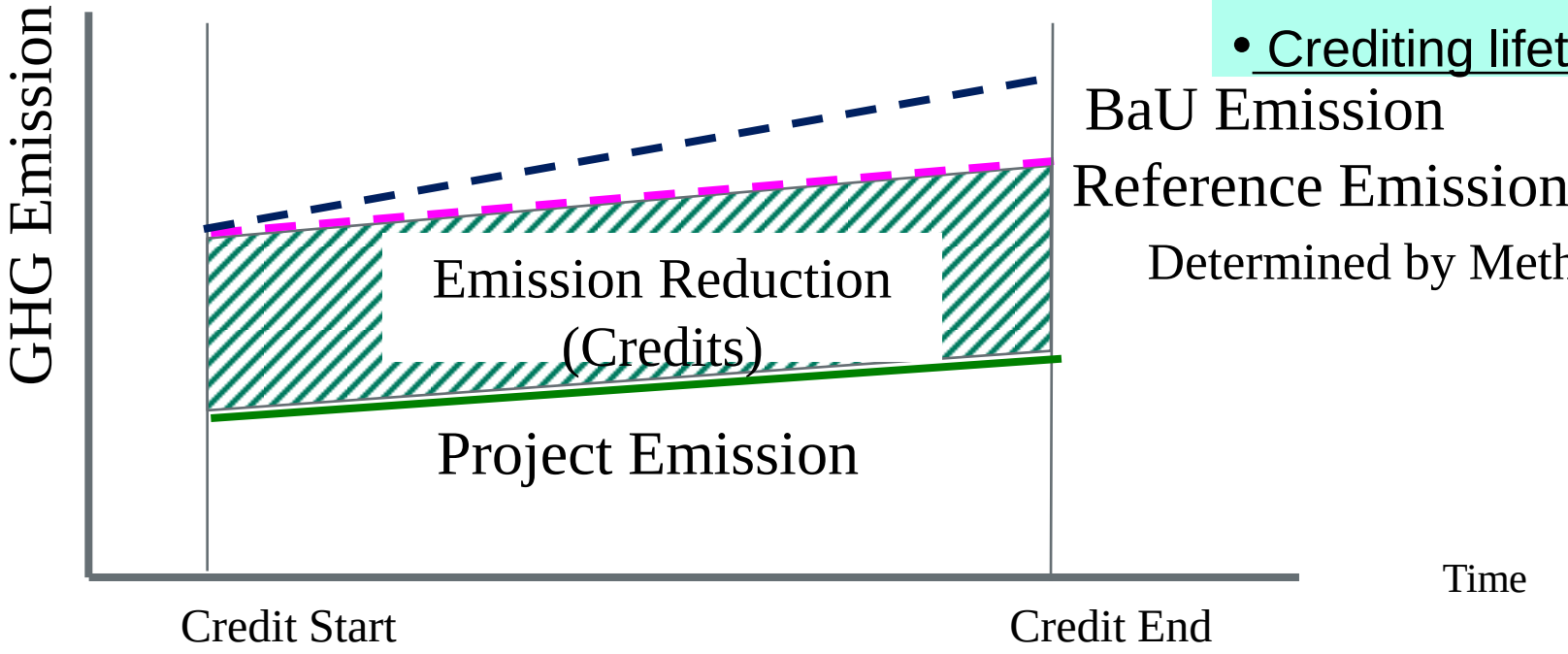
- Baseline level
- Crediting lifetime



Basic Concept for Crediting under the JCM

JCM ⇒ Emission reduction is determined by;

- Reference level
- Crediting lifetime



Reduce the burden of

- ✓ Analyzing hypothetical scenarios
- ✓ Demonstration of additionality

Increase transparency for calculation of GHG emission reductions.

Basic Concept for Crediting under the JCM

Reference Emissions

- 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.

Refer to “Recent Development of The Joint Crediting Mechanism (JCM)” Japanese Government, 2014,

Documents for the JCM

		Rules and Guidelines
Overall		• Rules of Implementation • Project Cycle Procedure • Glossary of Terms • Guidelines for Designation as a Third-Party Entity (TPE guidelines)
Joint Committee		• Rules of Procedures for the Joint Committee (JC rules)
Methodology		• Guidelines for Developing Proposed Methodology (methodology guidelines)
Project Procedures	Developing a PDD	• Guidelines for Developing Project Design Document and Monitoring Report (PDD and monitoring guidelines)
	Monitoring	
	Validation	• Guidelines for Validation and Verification (VV guidelines)
	Verification	

Refer to “Recent Development of The Joint Crediting Mechanism (JCM)” Japanese Government, 2014.

Templates for the JCM

	Templates
Methodology	• Proposed Methodology Form • Approved Methodology Revision Request Form
Project Planning	• Project Design Document Form • Project Registration Request Form • Proposed Methodology Spreadsheet Form • Modalities of Communication Statement Form
Project Implementation	• Post-Registration Changes Request Form • Registration Request Withdrawal Form • Project Withdrawal Request Form • Credits Issuance Request Form • Issuance Request Withdrawal Form
TPE	• Application Form for Designation as a Third-Party Entity • Validation Report Form • Verification Report Form

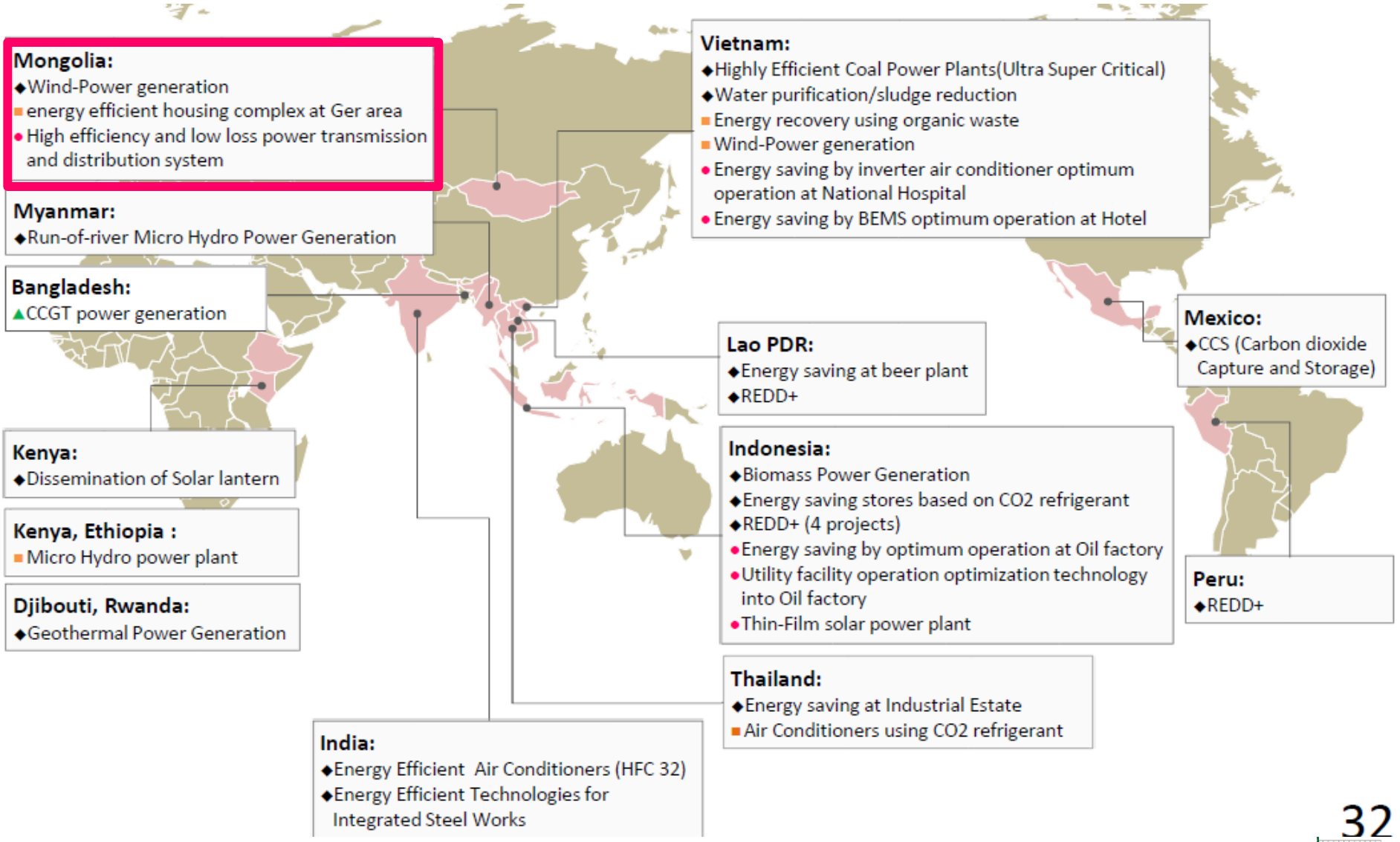
Refer to “Recent Development of The Joint Crediting Mechanism (JCM)” Japanese Government, 2014,

JCM Project scope

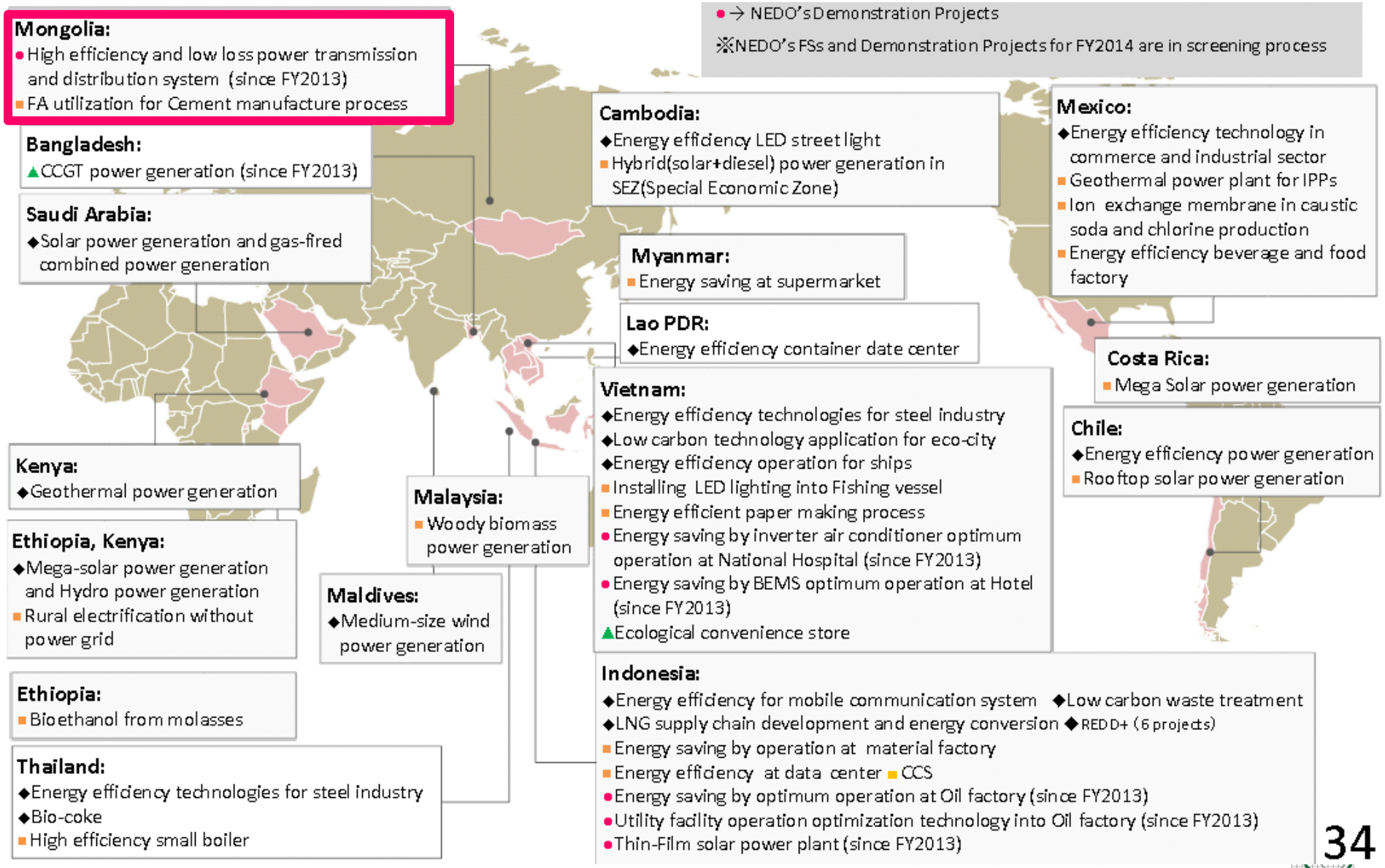
Sectoral Scopes

1. Energy industries (renewable - / non-renewable sources)
2. Energy distribution
3. Energy demand
4. Manufacturing industries
5. Chemical industry
6. Construction
7. Transport
8. Mining/Mineral production
9. Metal production
10. Fugitive emissions from fuels (solid, oil and gas)
11. Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
12. Solvents use
13. Waste handling and disposal
14. Afforestation and reforestation
15. Agriculture

JCM Japan project (FY2013)

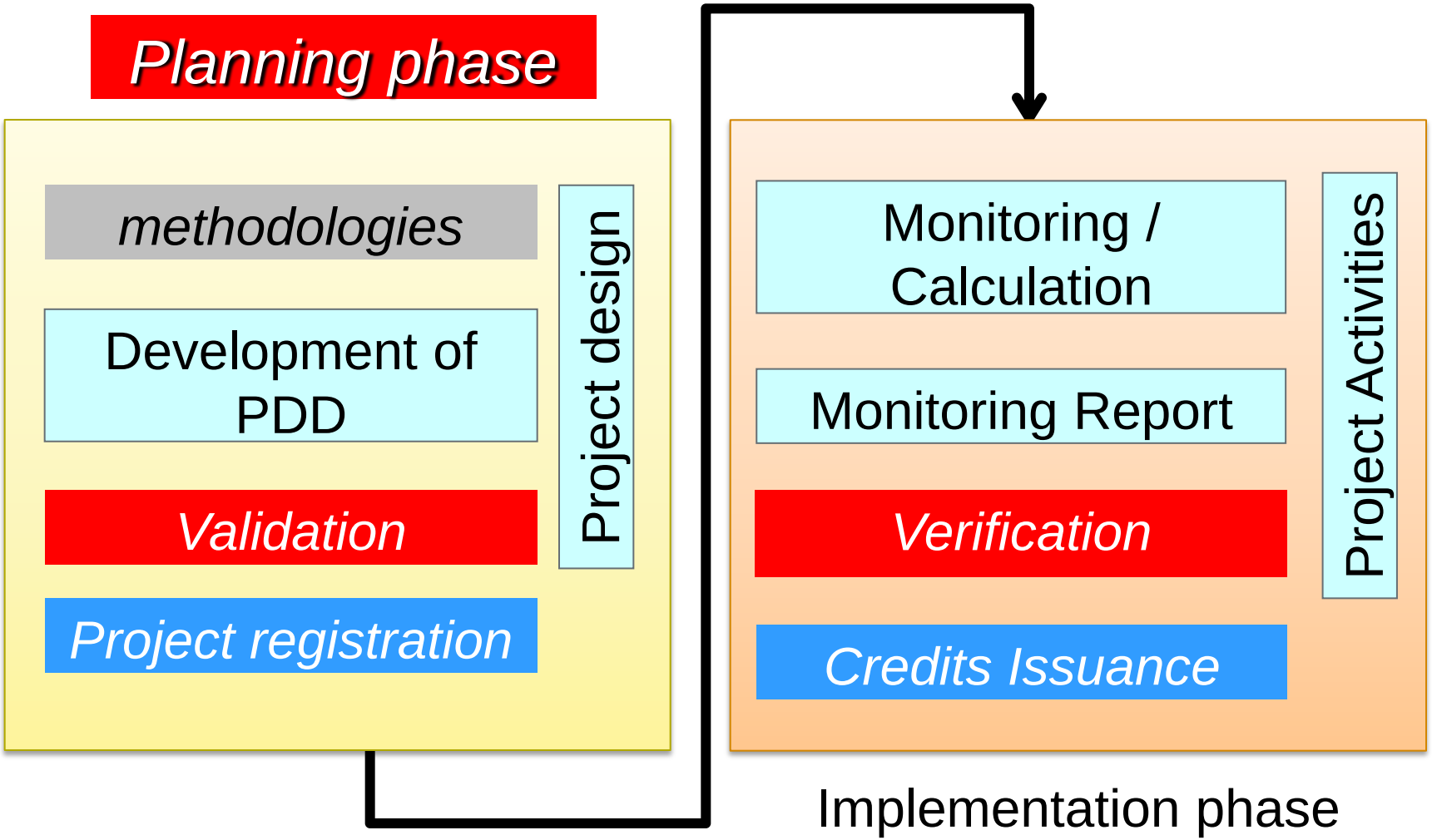


JCM Japan project (FY2014)



2. Registration of Methodology

Implementation of GHG Project

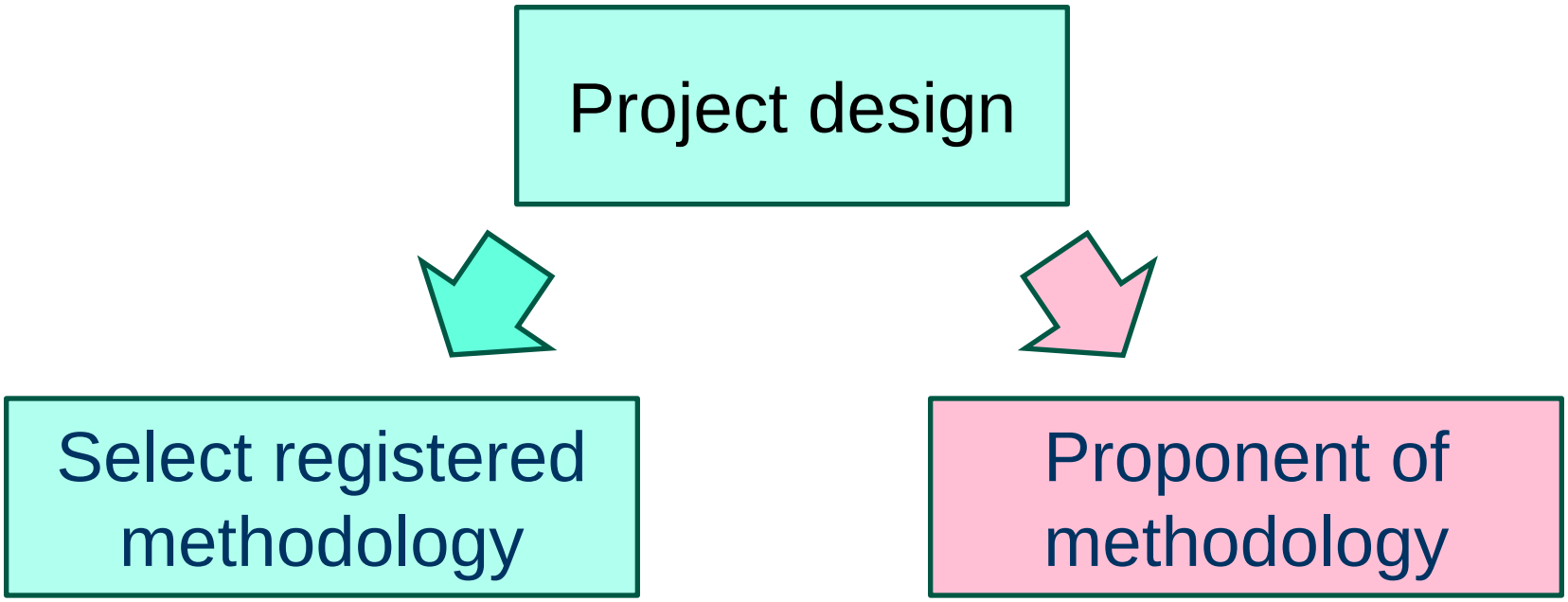


Project participants

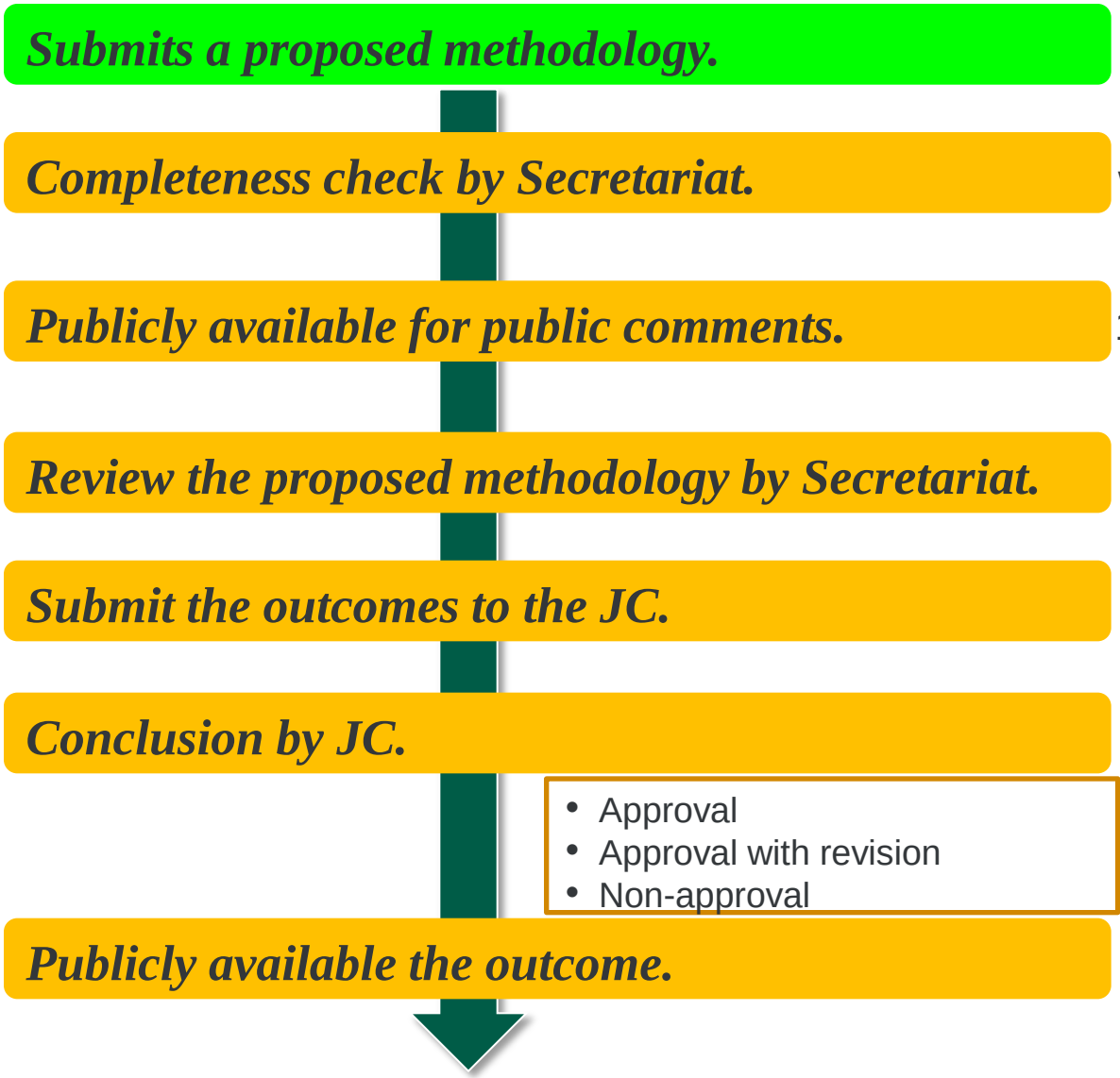
TPE

JC

JCM Methodology



1st Step: Registration of Methodologies



PPs

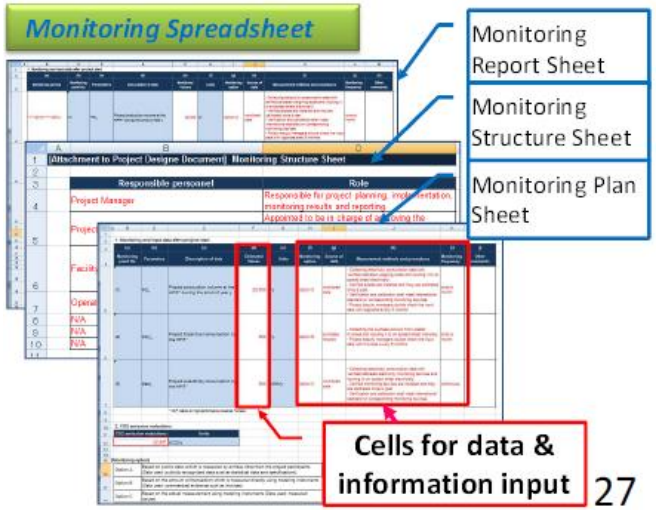
TPE

JC

JCM Methodology

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)



Refer to “Recent Development of The Joint Crediting Mechanism (JCM)” Japanese Government, 2014.

JCM Methodology

Easily to use for project participants and verifier.
To reduce monitoring burden ⇒ default values, conservative manner.

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)	• 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.

Refer to “Recent Development of The Joint Crediting Mechanism (JCM)” Japanese Government, 2014,

JCM Methodology

Eligibility criteria;

All the criteria have to be met

Criteria 1

The requirements in order to be registered as a JCM project.

Examples,

Regarding the electrolysis of brine, the ion-exchange membrane method is employed in electrolyzers in place of the mercury method.

The cation exchange membrane used for this brine electrolysis is a laminate that incorporates a porous base material made of woven fabric, and has either of the following features: (i) surface contour composed of protrusions of the porous base material directed toward the anode side that are at least 1/2 of the thickness of the porous base material, or (ii) grooves on the surface of the laminate's porous base material.

Criteria 2

The requirements to be able to apply the JCM methodology.

Examples

Power consumption of the existing electrolyzer of mercury method is monitored and the specific electricity consumption of the electrolyzer over the past three years, up to the year previous to the year the draft PDD was submitted for validation, can be calculated

JCM Methodology

Guidance for

1. Calculation for emission reductions
   - Emission sources
   - Reference emissions
   - Project emissions
   - Emission reductions
   - Data and parameters fixed ex ante
2. Monitoring and reporting.
   - Procedures
   - List of data and parameters monitored

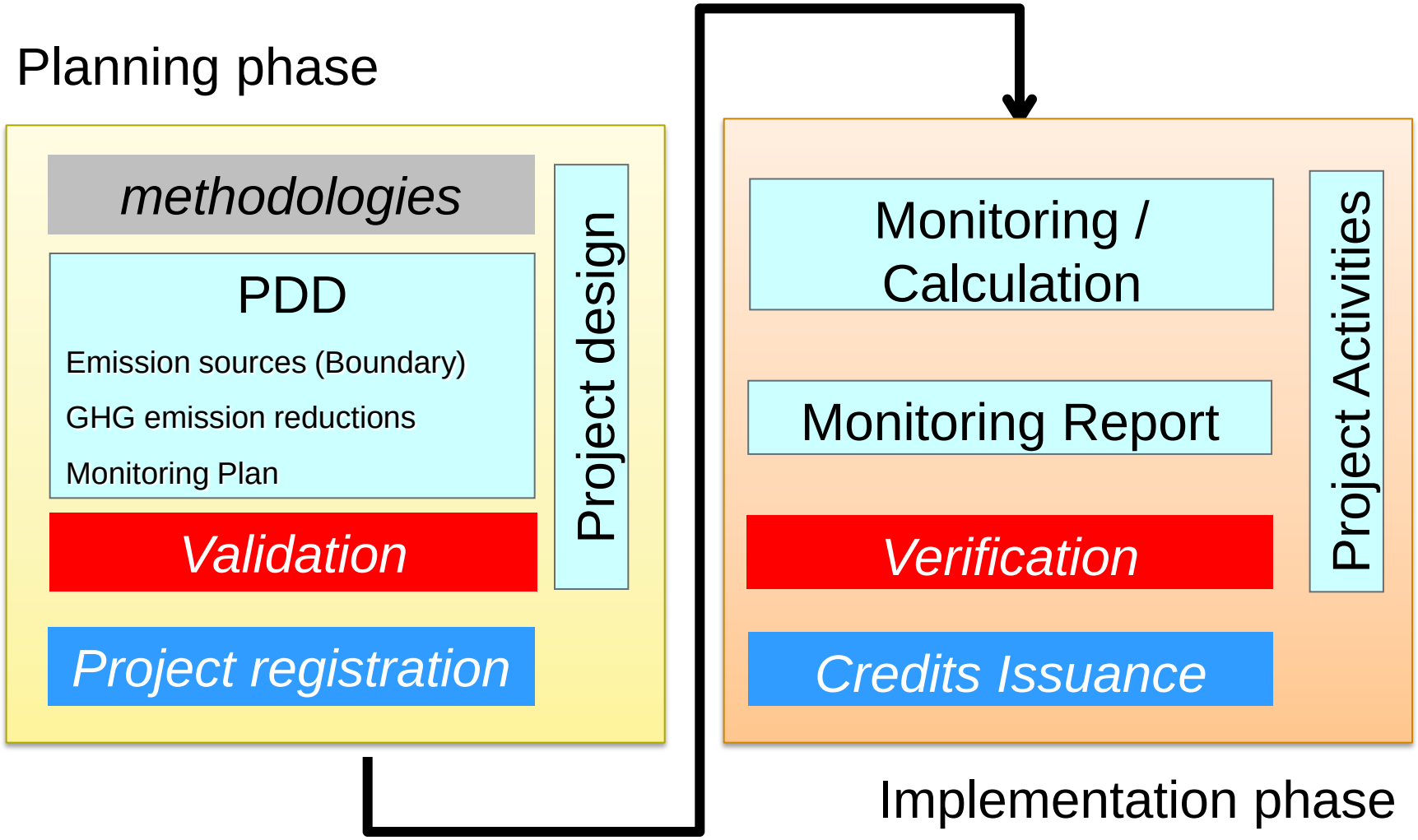
JCM Methodology

Registered methodologies (Example)

#	Name	Country	Sectoral scope:
MN_AM001	Installation of energy-saving transmission lines in the Mongolian Grid	Mongolia	02
ID_AM001	Power Generation by Waste Heat Recovery in Cement Industry	Indonesia	01
ID_AM002	Energy Saving by Introduction of High Efficiency Centrifugal Chiller	Indonesia	03
ID_AM003	Installation of Energy-efficient Refrigerators Using Natural Refrigerant at Food Industry Cold Storage and Frozen Food Processing Plant	Indonesia	03
ID_AM004	Installation of Inverter-Type Air Conditioning System for Cooling for Grocery Store	Indonesia	03
MN_AM002	Replacement and Installation of High Efficiency Heat Only Boiler (HOB) for Hot Water Supply Systems	Mongolia	01
PW_AM001	Displacement of Grid and Captive Genset Electricity by a Small-scale Solar PV System	Palau	01
VN_AM001	Transportation energy efficiency activities by installing digital tachograph systems	Viet Nam	07
VN_AM002	Introduction of Room Air Conditioners Equipped with Inverters	Viet Nam	03
VN_AM003	Improving the energy efficiency of commercial buildings by utilization of high efficiency equipment	Viet Nam	03
MV_AM001	Displacement of Grid and Captive Genset Electricity by Solar PV System	Maldives	01

3. PDD and Registration as a JCM project

Reporting of GHG Project

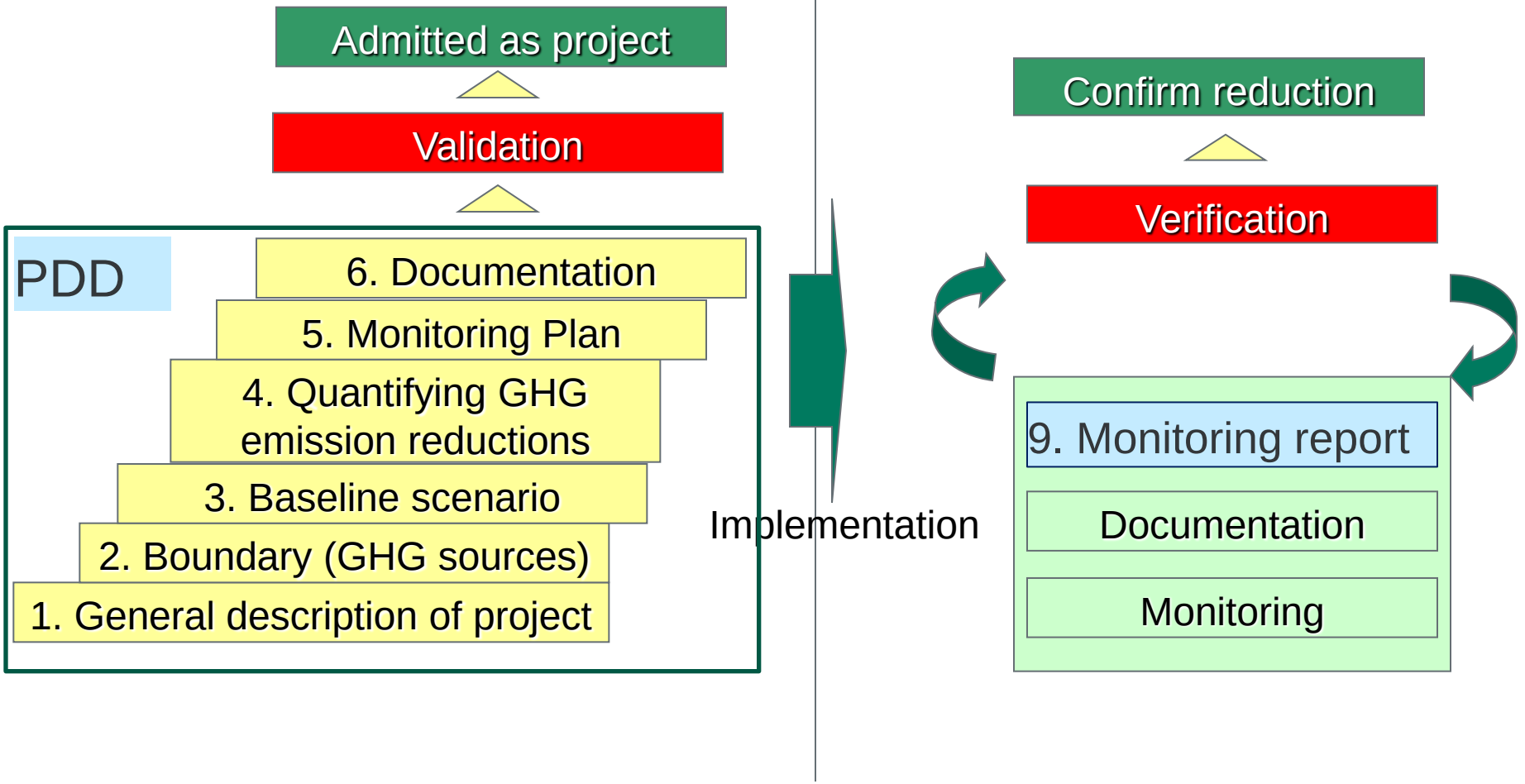


Project participants

TPE

JC

Reporting of GHG Project



Principles of Reporting of GHG Projects

Principles

Relevance

Select GHG sources, GHG sinks, GHG reservoirs, data and methodologies appropriate to the needs of the intended user.

Completeness

Include all relevant GHG emissions and removals.
Include all relevant information to support criteria and procedures.

Consistency

Enable meaningful comparisons in GHG-related information.

Principles of Reporting of GHG Projects

Principles

Accuracy

Reduce bias and uncertainties as far as practical.

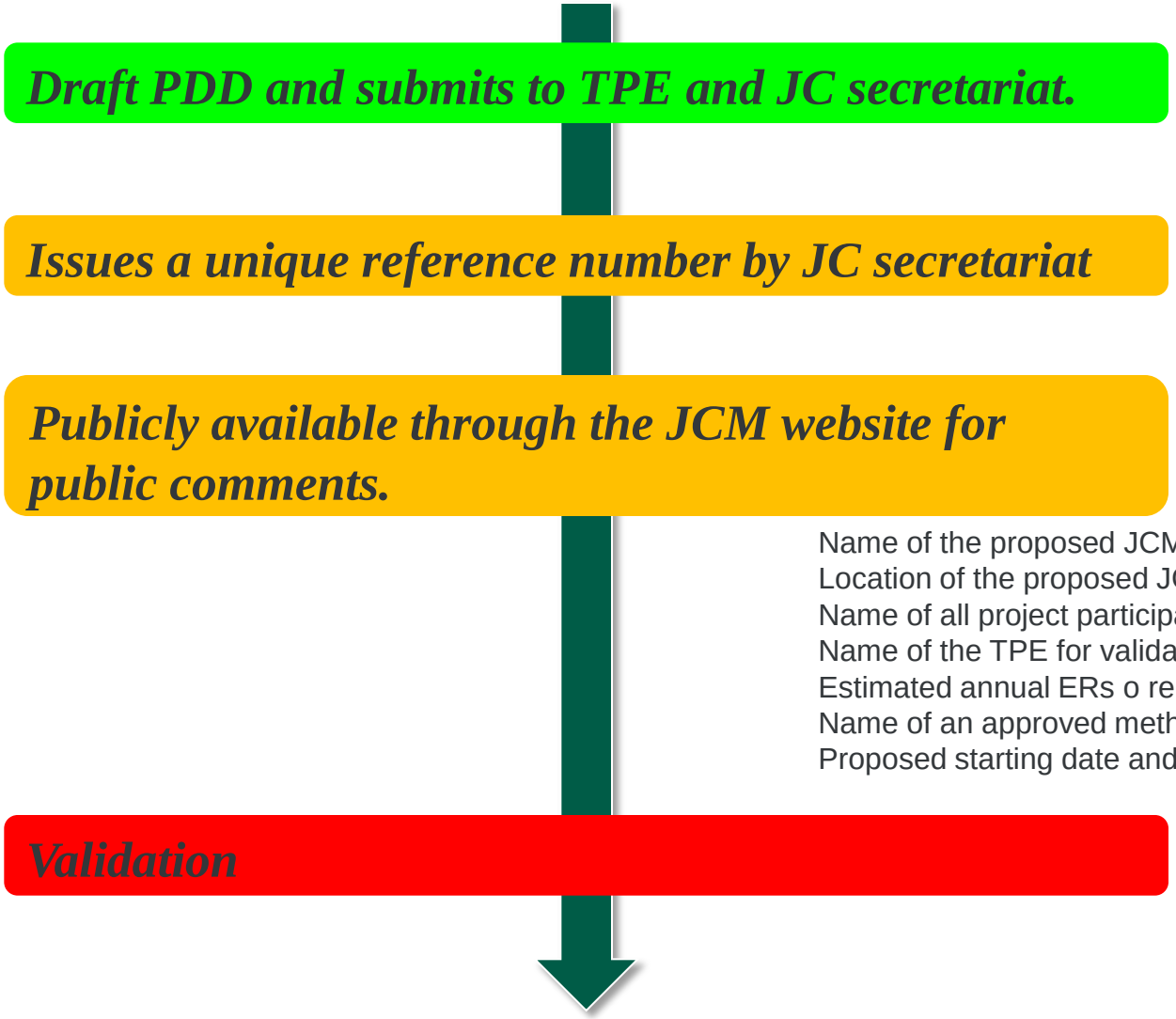
Transparency

Disclose sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence.

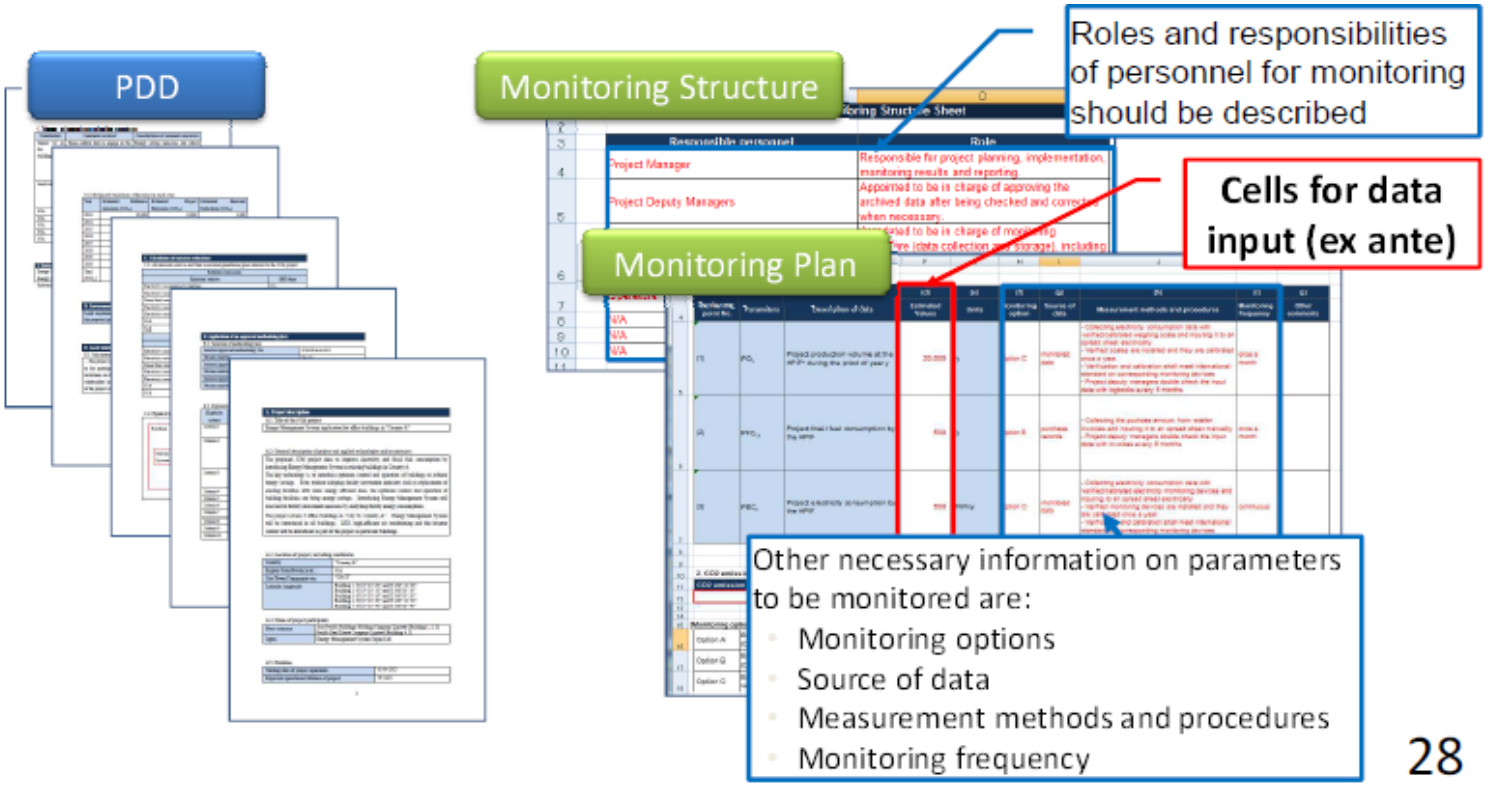
Conservativeness

Use conservative assumptions, values and procedures to ensure that GHG emission reductions or removal enhancements are not over-estimated.

2nd Step: PDD development



Project Design Document (PDD)



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PDD

A. Project Description

B. Application of approved methodology

C. Emission Reduction

D. Environmental impact assessment

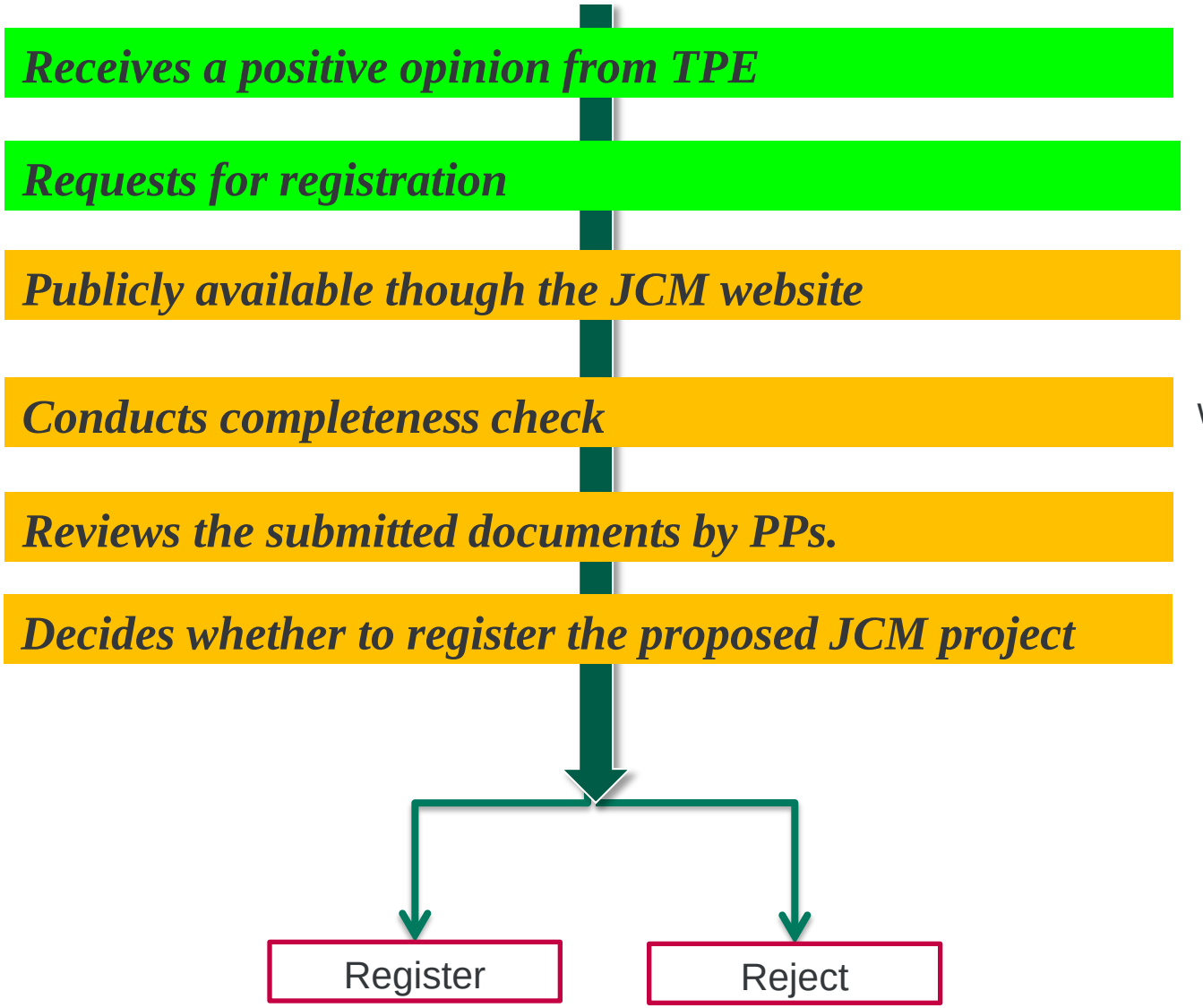
E. Local stakeholder consultation

Others,

Excel sheet for Monitoring and calculation

Refer to “Joint Crediting Mechanism Guidelines for Developing Project Design Document and Monitoring Report”

4th Step:Registration



within 7 calendar days.

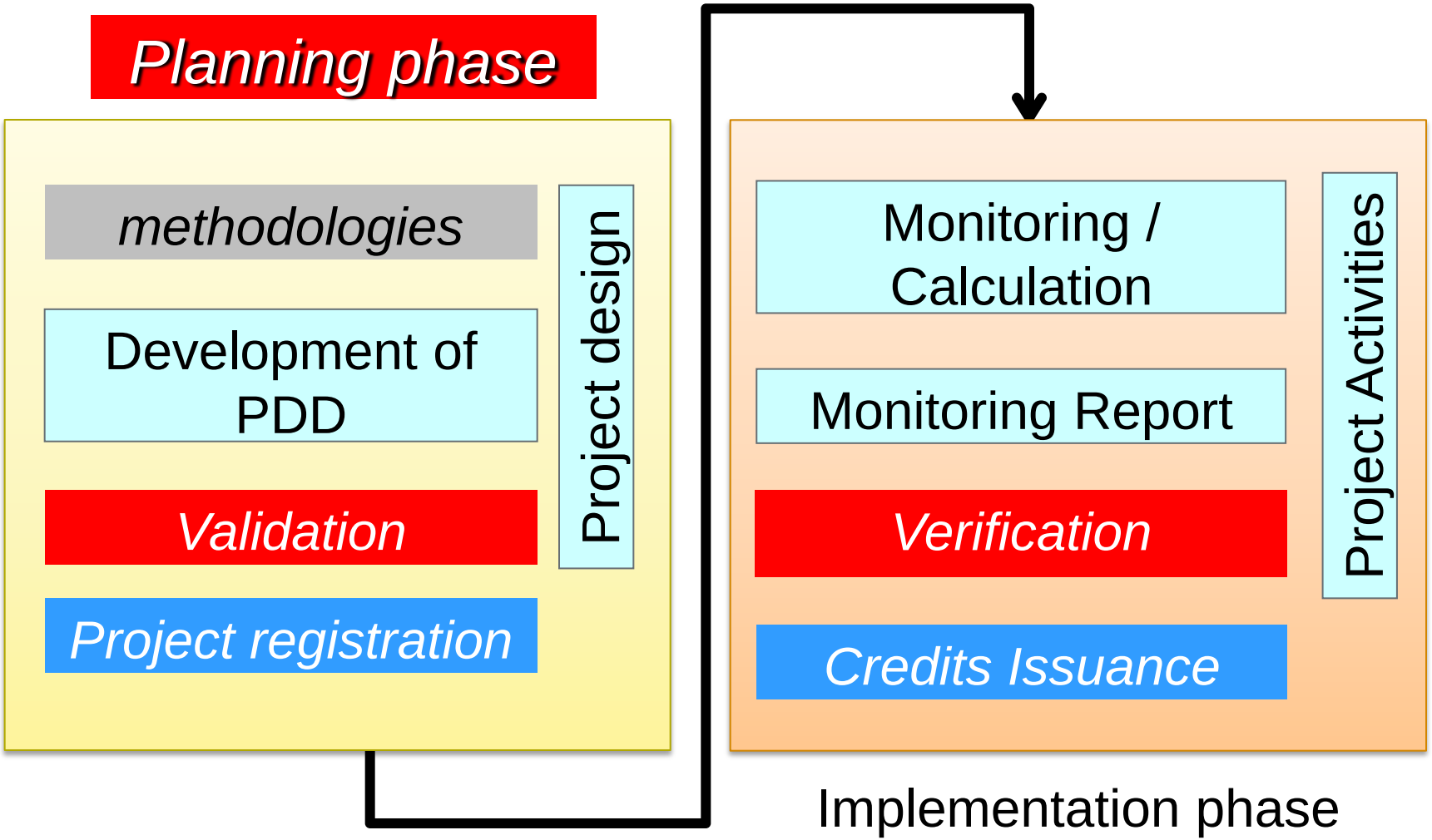
PPs

TPE

JC

4. Monitoring and Issue of Credit

Implementation of GHG Project

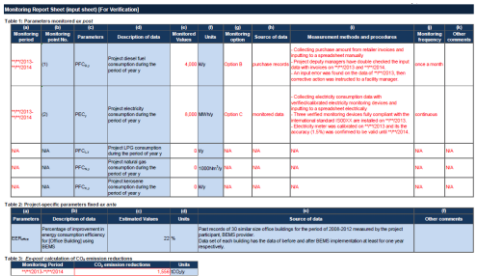


5th and 6th Step: Monitoring and Report

Conduct monitoring in line with the monitoring plan of the registered PDD

Making a Monitoring Report

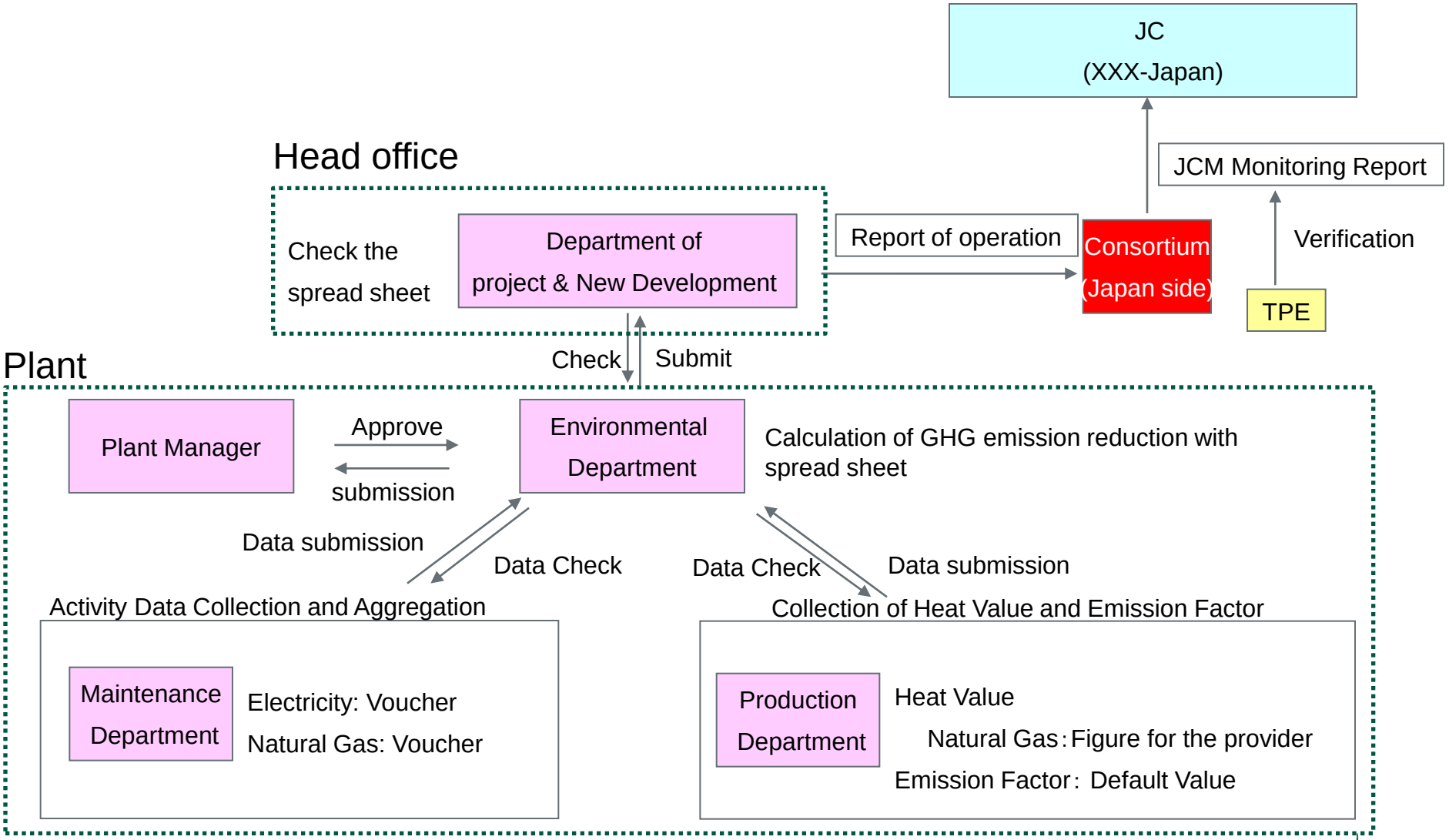
- Made by filling cells for data input (ex post) in the Monitoring Report Sheet with monitored values.
- Prepare supporting documents which include evidence for stated values in the cells for data input.



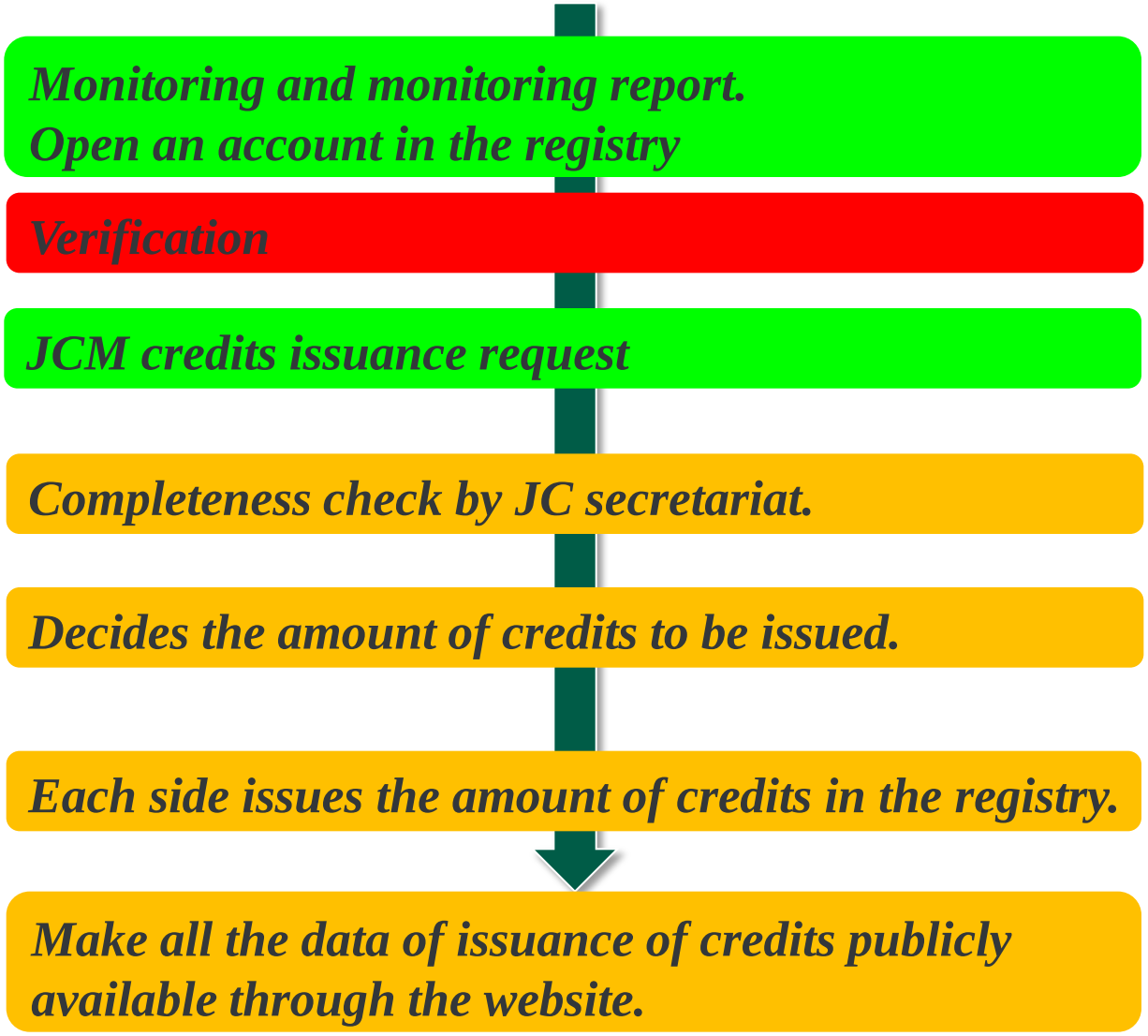
Monitoring Report
(Monitoring Report Sheet)

supporting documents

Monitoring



8th Step: Issuance of credits



Within calendar 7 days

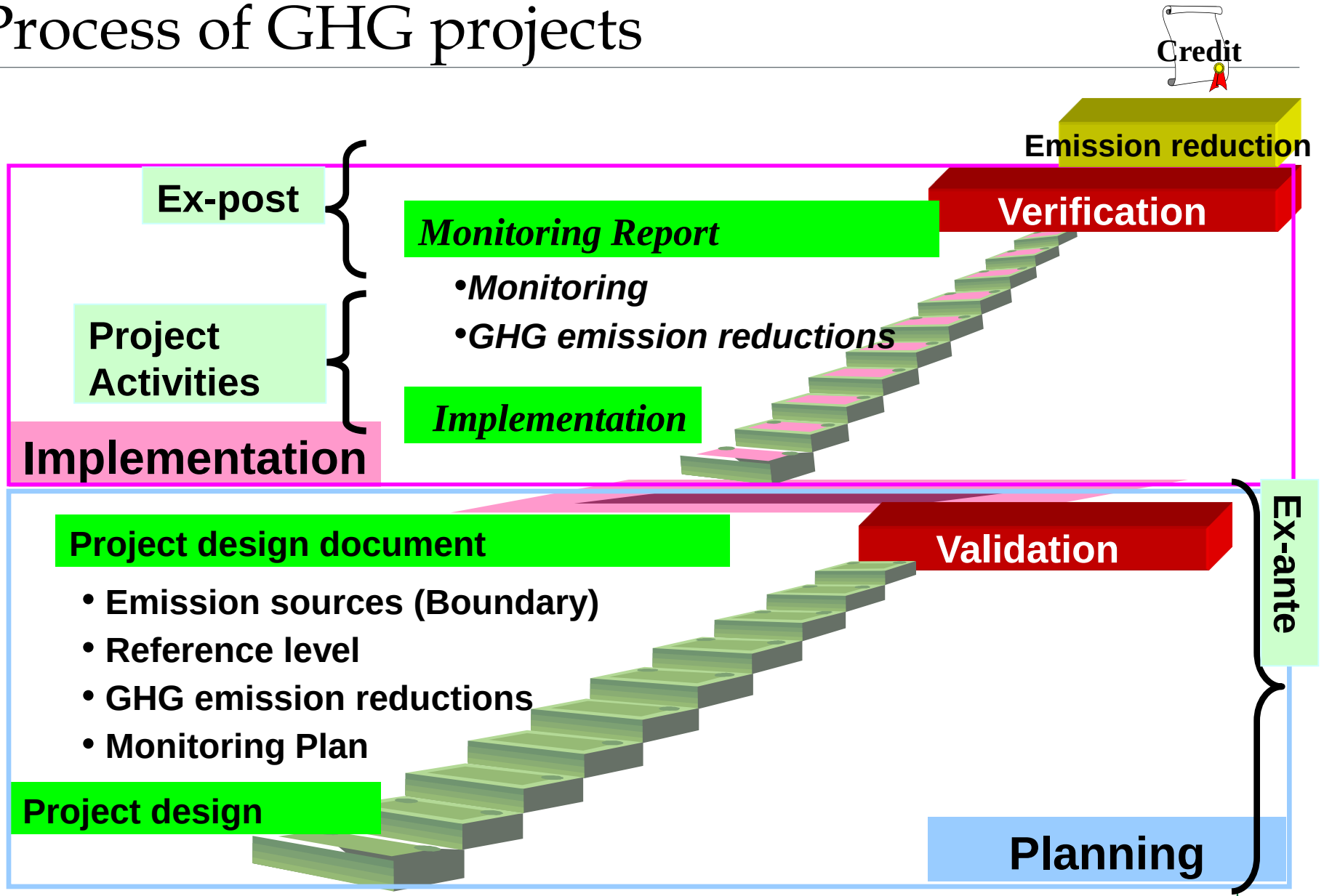
PPs

TPE

JC

5 *Validation and Verification*

Process of GHG projects



Validation and Verification

Validation

Evaluation of the project design by independent third party.

- Ex-ante assessment (before project activity)

  : Forecast – based on presumption about future.

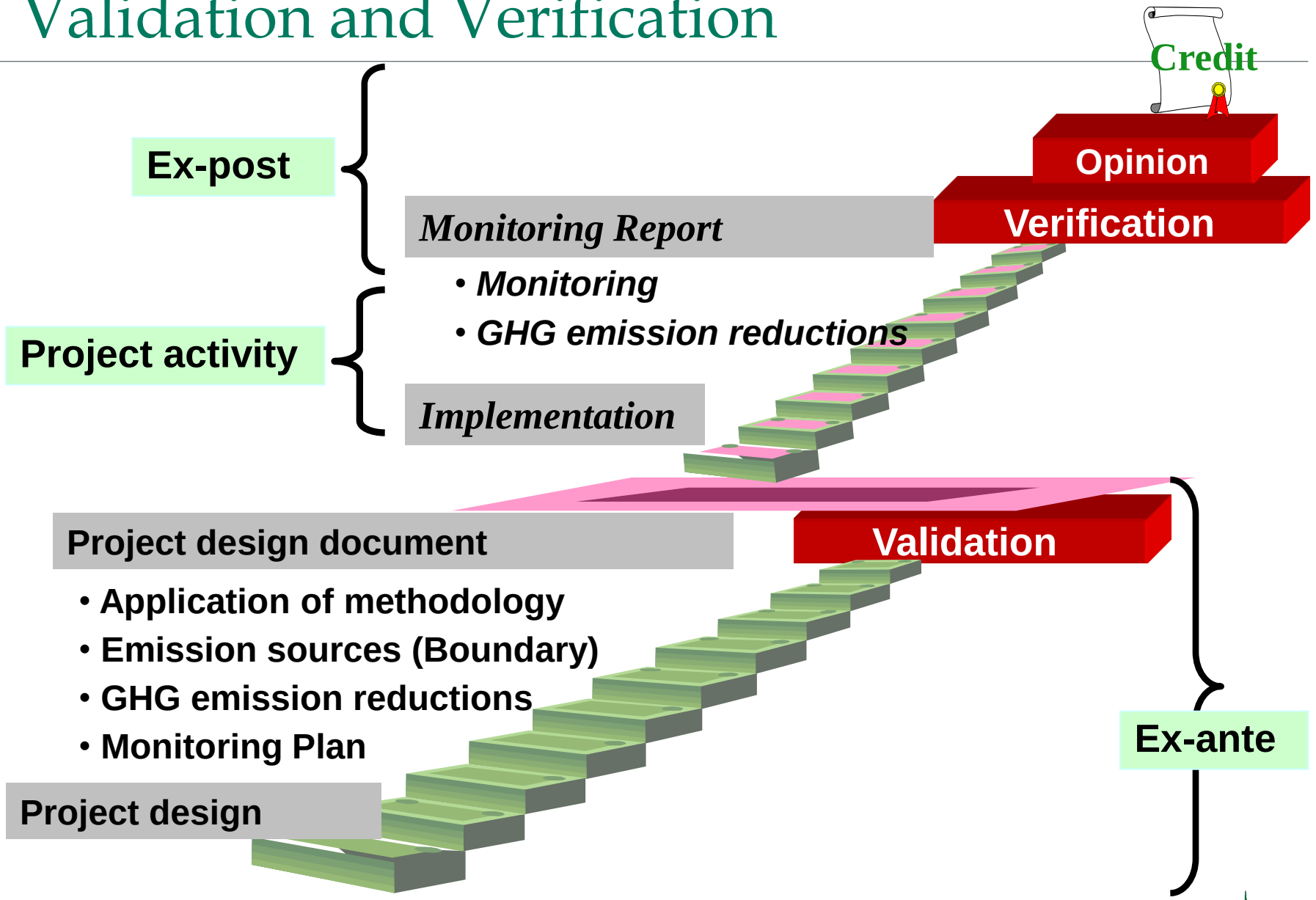
Verification

Review and determination of project performance/emission reduction by independent third party.

- Ex-post review (after project activity)

  : Based on actual data - verifiable

Validation and Verification



Validation and Verification

What is Validation? ISO14064-3

Systematic, independent and documented process for the evaluation of a GHG assertion in a GHG project Plan

against agreed validation criteria

(ISO14064-3, 2.32)

Validation and Verification

What is Validation? JCM

Process of independent evaluation of a proposed JCM project by a TPE.

Against these Guidelines

(JCM Guidelines for Validation and Verification, 5)

Validation and Verification

What is Validation?

TPE

Requirements → Assessment → Report

- **JCM rule, guideline**
- **Methodologies**
- **and so on**

- **PDD**

- **Validation report**

Validation and Verification

What is Verification? ISO14064-3

Systematic, independent and documented process for the evaluation of a GHG assertion

against agreed verification criteria

(ISO14064-3, 2.36)

Validation and Verification

What is Verification? JCM

Periodic independent review, ex post determination of the monitored GHG emissions reductions by a TPE

As a result of a registered JCM project

(JCM Guidelines for Validation and Verification, 6)

Validation and Verification

What is Verification?

TPE

Requirements	Assessment	Report
• **PDD** • **JCM rule, guideline** • **Methodologies** • **and so on**	• **Monitoring report**	• **Verification report** • **(Certification)**

Validation and Verification

- Validation:
  - More assess on qualitative information; assumptions, justifications etc.
  - Get more evidence through interview with stakeholders

- Verification:
  - More assess on quantitative information; monitoring data etc.
  - Confirm implementation of project follows project plan; PDD

Validation and Verification