JCM Methodology Guidebook

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Glossary and Abbreviations

JCM	Abbreviation for the Joint Crediting Mechanism
Partner country	Country that signed the bilateral agreement on implementation of JCM. 17 countries as of February 2021: Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Vietnam, Laos, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, Thailand, and the Philippines.
Joint Committee (JC)	Committee composed of representatives from Japan and its partner countries. Responsible for adopting the regulations, guidelines, etc. necessary for implementation of JCM, approving proposed methodologies, registering projects, and notifying relevant countries of the quantity of JCM credits issued.
JCM-related ministries and agencies (Japan)	JCM-related ministries and agencies of the Japanese government are the Ministry of the Environment; the Ministry of Economy, Trade and Industry; the Ministry of Foreign Affairs; and the Forestry Agency. Methodology development is discussed with the Ministry of the Environment and the Ministry of Economy, Trade and Industry.
JCM Secretariat	Secretariat of the Joint Committee. Responsible for receiving various documents submitted, checking the information in documents, and announcing and handling public comments.
Counterpart government official	The secretariat of a partner country and officials from ministries and agencies related to the content or field of proposed methodologies (e.g., supervising agency of relevant laws and regulations)
Supporting organization	Organization that supports the smooth implementation of the JCM Project Cycle entrusted by the Ministry of the Environment of Japan. In particular, responsible for supporting the management and implementation of Financing Programme for JCM Model Projects, methodology development, and the preparation and verification of project design documents.
Third-party entity, verification organization	Organization that checks the validity of projects and verifies the emission reduction and sequestration of greenhouse gases.
Project	Meaning a project that is applied for, and adopted as, a Financing Programme for JCM Model Projects project (excluding chapter 2)
Project proponent	Representative business operator and joint business operator in a JCM project
Environmental integrity	Cautions should be taken not to excessively reduce emissions due to a conservative calculation method or increase global emissions. *No official definition exists.
Conservative/ conservativeness	Meaning that numerical values used are consciously set so that a net emission reduction is ensured or excessive emission reduction is avoided.
Proposed methodology (PM)	Methodology developed that has not yet been approved and that was submitted (or will be submitted) to the Joint Committee of the counterpart country for approval.
Approved methodology (AM)	Methodology developed that was submitted to, and approved by, the Joint Committee.

Terms Related to Emissions *See 2.3.2 of the main text for details.

BaU (business as usual) emissions	GHG emissions that are assumed if no JCM project is implemented. BaU is an abbreviation for <u>B</u>usiness <u>a</u>s <u>U</u>sual.
Reference emissions	GHG emissions calculated on the assumption that the current initiatives for lower environmental loads (the degree of using low environmentally friendly products), etc. in the relevant field of the counterpart country will continue or expand, i.e., given that GHG emissions will remain lower than maintaining the status quo.
Project emissions	GHG emissions that are produced when project activities are conducted using the equipment and facilities newly introduced in a JCM project.
Net emission reduction	Difference between reference emissions and BaU (business as usual) emissions.

*All information above is as of February 2021.

1.　Introduction (Background and Purpose)

The COVID-19 pandemic inflicted heavy damage on our society and economy in 2020. In the field of climate change, the 26th UN Climate Change Conference (COP26), which had been planned to be held in Glasgow, United Kingdom, in November 2020, was postponed for a year, thereby also affecting the preparation for the Paris Agreement agreed in 2015. While various initiatives are taking place throughout the world for recovery from the pandemic, on the other hand, the "Green Recovery" movement has also been spreading, mainly in the EU. This is an approach of addressing environmental issues and economic recovery in parallel for a post-COVID-19 world, which is also expected to achieve faster implementation of climate change measures in the future. One of the climate change measures is carbon market mechanisms, which are stipulated in the Paris Agreement and are expected to be used widely. Japan started the Joint Crediting Mechanism (JCM) in 2013 as its original approach. JCM is a system used to achieve the reduction targets of Japan. This is done by introducing our excellent technologies, such as low-carbon technologies and products, throughout developing countries, promoting the implementation of climate change measures, and making quantitative evaluation of Japan's contribution to GHG reduction and sequestration resulting from such efforts.

The first thing to be defined in the JCM Project Cycle is methodology. Methodology is a document serving as a foundation to clarify the scope covered by the project to be implemented and appropriately calculate the produced emission reduction for acquiring credits. This Guidebook outlines the concept of developing the methodology, the entire cycle, and the procedures for implementation. Considerations were given when creating this Guidebook so that the content is easily comprehensible for those who wish to apply for a project of the Financing Programme for JCM Model Projects (representative business operator candidates, etc.), those who applied for a project and obtained approval, and all other project proponents (business operators) who will use the JCM system and conduct their business. Methodology itself is developed mainly by supporting organizations, while project proponents (business operators) play a main role in running the business. Please use this Guidebook to understand the mechanism of the methodology and make your business operations even smoother.

*"Reader's guide" is available at the bottom of the page for your reference.

*The procedures for crediting GHG emission reductions (JCM Project Cycle) are defined separately from the cycle for Financing Programme for JCM Model Projects for each introduced technology explained in this Guideline.

Reader's Guide — By Want-to-Know Item

- Want to Know the Entire JCM Project Cycle — page 3 (2.2) –
- Want to Know the Concept of GHG Emissions in JCM — page 4 (2.3.2) –
- Want to Know Specific Procedures for Developing a JCM Methodology — page 8 (3.2) –
- Want to Know the Structure and Content of JCM Methodology — page 13 (4.1) –
- Want to Know Points for Developing a JCM Methodology — page 17 (4.2) –

2. What Is Methodology in JCM?

2.1 Objective and Definition of JCM Methodology

As stated above, JCM is a system intended to use the initiatives for GHG reduction by the partner countries supported by Japan to achieve our reduction targets. Therefore, the reductions need to be recognized by the international community. Even in terms of contribution to global GHG reductions, it is important for the reductions to be recognized and approved internationally as GHG reduction credits that will be distributed and transacted beyond the framework of countries and regions in the future. To do so, the methods and procedures regarding implementation need to be established as a methodology based on a scientific basis, etc., and announced expressly beforehand. In other words, the methodology in JCM is stated in a document that logically and expressly stipulates the approaches of

JCM Procedures		Each Project proponent
1	Develop a proposed methodology	● Project proponent (business operator) ● supporting organization
2	Submit the proposed methodology	● Project proponent (business operator)
3	Approve the proposed methodology	● Joint Committee
4	Prepare a Project Design Document (PDD)	● Project proponent
5	Validation	● Third-party entity
6	Registration	● Joint Committee
7	Monitoring	● Project proponent
8	Verification	● Third-party engity
9	Credits issuing	● Joint Committee decides the volume of credits to be issued ● Each government issues credits

Figure 2.1. JCM Project Cycle

defining the terms necessary for the introduction and operation of each technology to be introduced, determining the eligible criteria, and using the methods of calculating GHG reductions in order to quantify the GHG reductions after introduction of the technology in JCM, enable the reductions to be transacted internationally as reduction credits, and allow third parties to carry out a similar project in a highly reproducible and consistent manner. The systems, which allow GHG reduction credits in other countries to be transacted on the market, have different names, while most of the systems stipulate items similar to those in the JCM methodology.

2.2 Importance of JCM Methodology (JCM Project Cycle)

The cycle (procedures) for crediting GHG emission reduction is defined separately from the cycle for Financing Programme for JCM Model Projects for each introduced technology (see the chart at right[1]). The first process of the procedures is to develop the methodology as indicated in this Guidebook. As shown in this chart outline, the methodology is a document serving as a foundation for JCM that is prepared prior to reduction activities. This document indicates the reduction technologies and the methods of calculating emission reductions in order to demonstrate the validity and effectiveness of the reduction activities, so that GHG emission reduction after introducing technologies can be recognized internationally.

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[1] See the Global Environment Centre (GEC) website (http://gec.jp/jcm/jp/about/).

2.3.1 Main Features

JCM methodology was designed based on existing Clean Development Mechanisms (hereinafter CDM), etc., and has the following main features:

Usability	JCM methodology is easy to use for project proponents and designed to allow the third party entities to easily verify the data.
Eligible Criteria	The eligible criteria, clearly defined in the methodology, reduce the risk that the project proposed by the project proponent is rejected.
Data	Default values specific to countries and sectors are already available in the methodology, which gives project members access to data necessary for calculating GHG emission reduction/sequestration.
Simple Calculation	Inputting values necessary for created spreadsheets automatically calculates GHG emission reduction/sequestration in accordance with the methodology.
Conservativeness	In JCM, emission reduction attributable to projects is calculated in a conservative manner to ensure the GHG net emission reduction of the partner countries. The calculation outline and net emission reduction are explained in the next section.

2.3.2 Reference Emissions and Conservativeness (Environmental Integrity)[2]

In many cases where equipment and facilities with low GHG emissions are introduced, and the GHG emission reduction is calculated to identify the effectiveness (e.g., CDM), the emission reduction is calculated by figuring out the difference between BaU (business as usual) emissions, where the project is not implemented, and project emissions, where the project is implemented.

> Emission reduction = BaU (business as usual) emissions − Project emissions

On the other hand, the emission reduction in JCM projects is defined as the difference between reference emissions and project emissions, instead of BaU (business as usual) emissions.

> Emission reduction in JCM = Reference emissions − Project emissions

In JCM projects, new equipment and facilities with clear specifications are introduced in all projects, and the emissions attributable to their use are treated as project emissions, thereby making it possible to mostly calculate the emissions accurately. Thus, the emission reduction attributable to project implementation is greatly affected by the emissions in which the calculated project is not implemented (BaU [business as usual] emissions). In JCM aiming for activities that take environmental integrity into consideration, on the other hand, the BaU (business as usual) emissions are set more conservatively (underestimating the volume), and this is used as reference emissions.[3]

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[2] The term "environmental integrity" is not clearly defined by UNFCCC, etc. (as of February 2021). JCM defines environmental integrity as a concept that cautions should be taken not to excessively reduce emissions due to a conservative calculation method or cause extra environmental loads in all environmental aspects.

[3] Programs using other market mechanisms may use different names, e.g. baseline (emissions) in CDM.

（1） BaU (business as usual) emissions

GHG emissions that are assumed if no JCM project is implemented. In particular, BaU is calculated as GHG emissions that are assumed when the equipment and facilities that are generally used in the field continue to be used (maintaining the status quo) at the time of project start.

（2） Reference emissions

Based on the current initiatives to reduce environmental loads by counterpart countries in that field (the degree of using environmentally friendly products), GHG emissions are calculated on the assumption that the reduction initiatives continue or expand, i.e., given that GHG emissions will remain lower than maintaining the status quo. For this reason, reference emissions are lower than BaU (business as usual) emissions.

（3） Project emissions

GHG emissions that are produced when project activities are conducted using the equipment and facilities newly introduced in a JCM project (e.g., power consumption required to operate a boiler, fuel consumption for material transportation, etc.). In calculating project emissions, using conservative default values as parameters for calculation instead of actual measured values can make a calculation so that the emissions are greater than the actual project emissions. Doing so makes the reference emissions lower (more conservative) and also serves as a method of ensuring net emission reduction in the same way as the reference emissions above. This also decreases the number of items to be assumed, thereby leading to lower loads on monitoring activities.
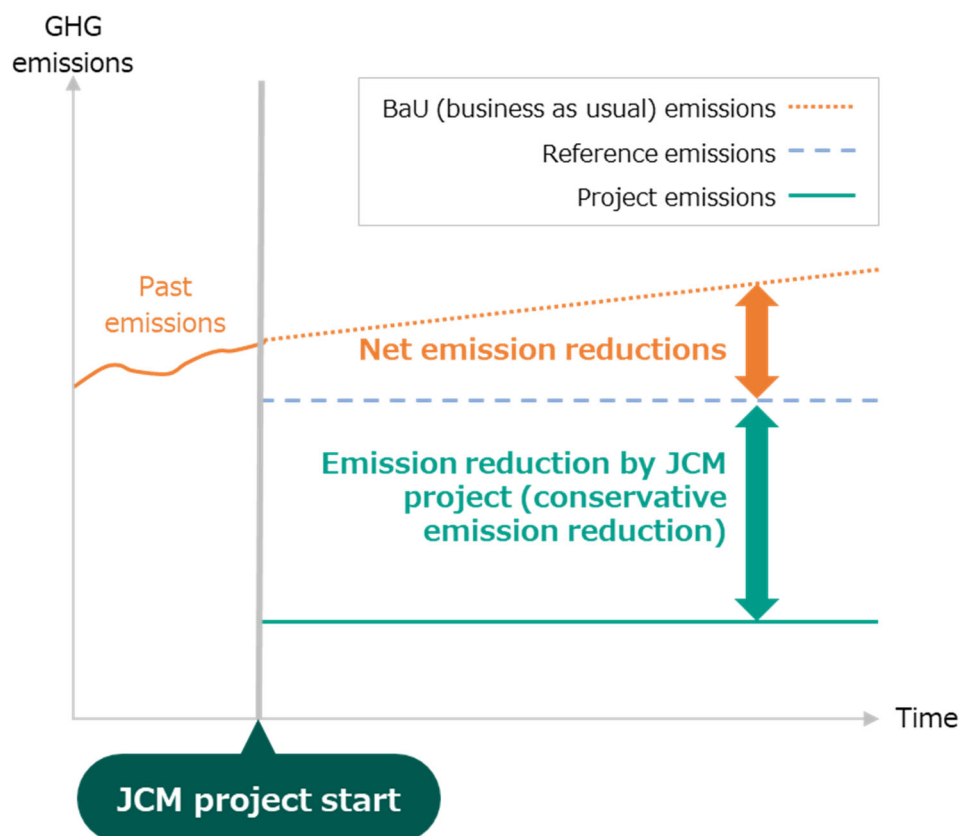
Figure 2.2. GHG emission reduction

（4） Net emission reduction

Difference between BaU (business as usual) emissions and reference emissions is called net emission reduction. Setting reference emissions so that net emission reduction can be ensured verifies the substantive reduction of GHG emissions in JCM projects (see the column on the next page for details). In JCM, as explained above, emission reduction is conservatively calculated while paying attention to ensuring sufficient net emission reduction; consequently, there are many cases where the emission reduction is lower than originally expected in projects, resulting in fewer credits that can be acquired. Project proponents who will participate in JCM are advised to fully understand this. The detailed methods of calculating emission reduction will be explained at the stage of application for a project. Supporting organizations will explain about the methods again at the stage of methodology development after your proposal is adopted as a project of Financing Programme for JCM Model Projects; they will also support project proponents in developing their methodology in more detail.

*See the Guidebook (Collection of Cases) for specific cases of calculating reference emissions.

Summary

- In order for JCM to be recognized internationally as GHG reduction credits, the methods and procedures regarding implementation need to be established as a methodology based on a scientific basis, etc. and announced expressly beforehand.

- The JCM Project Cycle is designed to calculate emission credits, separately from the procedures for Financing Programme for JCM Model Projects.

- Methodology development is the first step to the JCM Project Cycle.

- Emission reduction in JCM is calculated by subtracting project emissions from reference emissions.

- In JCM that sees the securing of net emission reduction as important, the key point is to calculate reference emissions that conservatively figure out emissions.

Column— Net Emission Reduction

JCM performed in accordance with the requirements in Article 6 of the Paris Agreement is designed to ensure net emission reduction in order to make sure of environmental integrity defined in the decision. Net emission reduction is a concept that does not credit reduction from BaU (business as usual) emissions (CDM is based on this concept), but credits lower reduction than that to ensure substantive emission reduction. This is because, if reduction from BaU (business as usual) emissions is issued as credits, emitters who acquired the credits actually produce GHG emissions equivalent to that amount by using the credits, which does not contribute to reduction on a global scale (see the figure at upper part). In JCM, the difference between conservatively set reference emissions and project emissions is credited to ensure net emission reduction that is substantive GHG emission reduction. This effort is expected to achieve lower GHG emissions on a global scale (see the chart below).
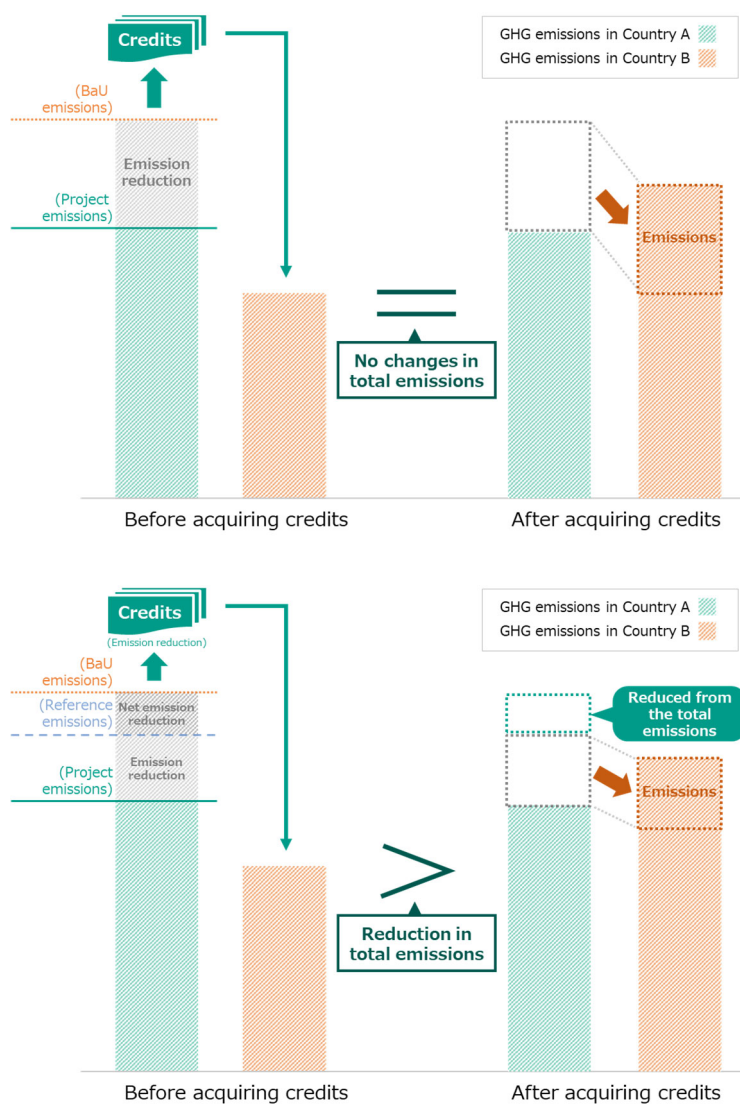
3. Approval Process for JCM Methodology

This chapter discusses the development and approval process of JCM methodology. Descriptions of each item in JCM methodology are stated in chapter 4. As explained in the Project Cycle section in 2.2, a methodology to be applied needs to be established first before starting a project. The approach is either to apply an existing methodology or develop a new methodology, and the details of preparation vary depending on the approach (see the chart below).
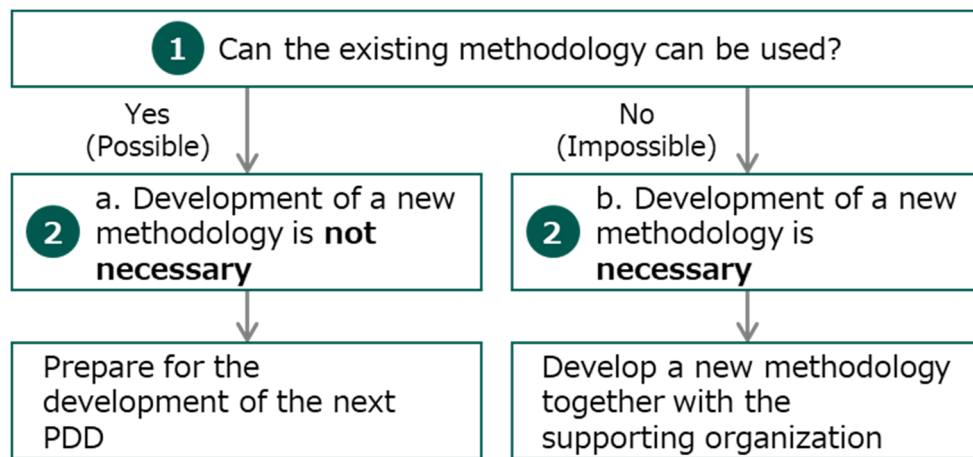
Figure 3.1. Flow chart to determine whether a new methodology needs to be developed

①   If an applicable methodology already exists, the supporting organization asks the project proponent whether the methodology can be employed. The project proponent examines the details of the applicable methodology and determines whether it can be utilized.

②   There are two types of approaches based on the examination results above.

a)   If an existing methodology can be used, a new methodology does not need to be developed. Move on to the preparation process of creating a Project Design Document (PDD) with the assistance of the supporting organization (see 3.1 for details).

b)   If an existing methodology cannot be used, a new methodology needs to be developed. The supporting organization plays a leading role in developing a new methodology based on a hearing with the project proponent (see 3.2 for details).

3.1 Application of an Existing Methodology (②a in fig. 3.1)

If an applicable methodology exists between Japan and the counterpart country where the project is to be implemented, and if it can be used, the eligible criteria of the methodology and other details are confirmed again. If the methodology is judged as applicable, a new methodology is not developed after making a report thereof to the Ministry of the Environment. Then, the project proponent moves on to the preparation for creating a Project Design Document (PDD), which is the next process in the JCM Project Cycle. All the procedures will be instructed by the supporting organization, so the project proponent should proceed with the project in accordance with their instructions.

3.2 Development and Approval Process for a New Methodology (②b in fig. 3.1)

If no approved methodologies exist, a new methodology needs to be developed. In this case, the project proponent and the supporting organization work together to develop a new methodology in accordance with the sequence indicated below. Specifically, the supporting organization drafts a methodology, while the project proponent provides necessary information, coordinates with local stakeholders, and gives technical advice. It will take several months to a year from the start of development to approval (see chapter 5 for the handling procedures after the methodology is approved).

The procedures of JCM projects and the JCM Project Cycle, including methodology development, are aligned with each other while they are implemented in parallel as different processes. Thus, the project proponent should keep the following points in mind when carrying out the activities:

· Share with the supporting organization the progress of the project
· Provide the supporting organization with necessary information and technical advice
· Communicate sufficiently with joint business operators and the supporting organization (see the
  boxes below for details)

(Hereinafter, items with ✔ mark mean those that project proponents are expected to actively participate in)

(1)　　Hold a kickoff meeting (✔)

Before starting to develop a methodology, the project proponent and the supporting organization hold a kickoff meeting first. In the meeting, the supporting organization leads the confirmation of the entire schedule and procedures for the methodology development and the hearing of the business content for the methodology development. The hearing is conducted mainly to confirm the specifications and installation plan of the facilities, equipment, etc. necessary to calculate emission reduction, as well as the stakeholders, etc. who will be affected by the project implementation. Project proponents may be requested to submit relevant information and documents, including the information submitted when they applied for the JCM project; thus, they are advised to prepare the materials in advance.

(2)　　Draft a methodology

The supporting organization drafts a methodology based on the results of the meeting above. In the development process, the supporting organization requests the project proponent to provide information and technical assistance if needed, so that both parties can work together to develop a methodology. The development phase may take several

(1) Hold a kickoff meeting (✔)
(2) Draft a methodology
(3) Confirm the draft methodology (✔)
(4) Confirm the draft methodology by the Japanese government
(5) Hold a conference on the draft methodology by relevant countries
(6) Submit the draft methodology (✔)
(7) Solicit public comments
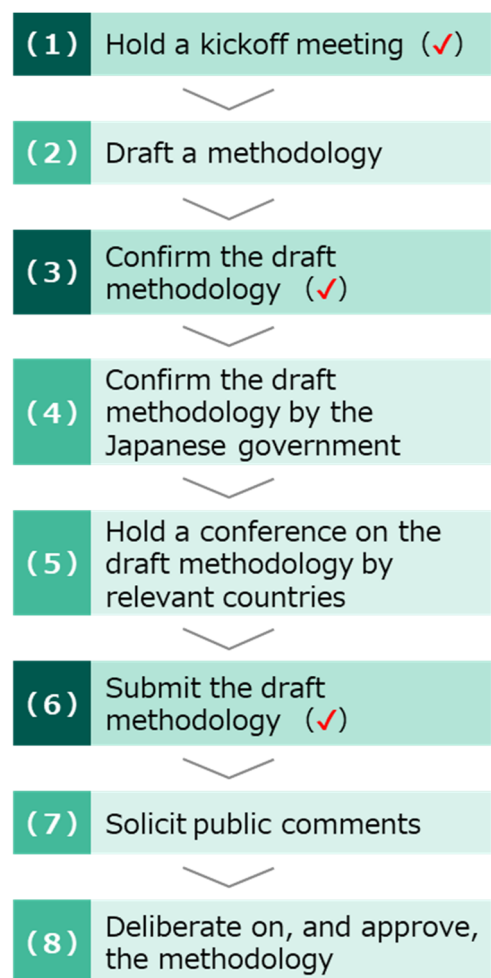(8) Deliberate on, and approve, the methodology

Figure 3.2. Development and approval process

months; thus, the progress of the project is shared with each other on an as-needed basis to avoid a significant gap between the methodology development phase and the process of equipment installation or facility construction (see chapter 4 for details).

(3)   Confirm the draft methodology (✔)

The project proponent confirms the methodology drafted by the supporting organization and reviews it from a technical perspective based on the local situation to provide feedback. After the confirmation, the draft methodology is submitted to government officials of Japan and the counterpart country to ask them to check it and provide comments. Then, the project proponent and the supporting organization work together to fully reexamine the content of the draft methodology, the adequacy of the logical composition, and the provision of sufficient necessary information. For this reason, the draft methodology may need to be checked and modified several times (see 4.2.3 for details).

(4)   Confirm the draft methodology by the Japanese government

JCM-related ministries and agencies of Japan check the draft methodology. Request for confirmation and modification of the draft methodology or submission of data, if any, is handled mainly by the project proponent and the supporting organization. Upon approval of the relevant ministries and agencies after this confirmation process, the draft methodology of Japan is confirmed.

(5)   Hold a conference on the draft methodology by relevant countries

The supporting organization explains the draft methodology to the JCM Secretariat of the counterpart country and holds a conference on the details. As necessary, the supporting organization sets the meeting venue for explanation of the draft methodology and exchange of opinions. The project proponent is not required to participate in the meeting, but may need to submit additional data, etc. in the same way as the confirmation phase in (4) above. After the conference of the relevant countries, the proposed methodology is finalized.

(6)   Submit the draft methodology (✔)

The project proponent sends the finalized draft methodology via email to the JCM Secretariat of the counterpart country. The supporting organization can also submit it on behalf of the project proponent; thus, the party that will submit the draft methodology is determined through discussion between the project proponent and the supporting organization. The submitter's company or organization name will be included in the proposed methodology, and they also need to handle administrative procedures, including several contacts with the JCM Secretariat; the project proponent is responsible for the handling process, according to the situation. Handling the procedures and drafting necessary documents are assisted by the supporting organization.

(7)   Solicit public comments

The submitted draft methodology is checked by the JCM Secretariat and then published on the JCM website[4] as a proposed methodology (PM) for 15 days to solicit public comments. Comments provided during the 15-day period to accept public comments are handled mainly by the JCM Secretariat of Japan, the supporting organization, and the project proponent.

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[4] JCM website (https://www.jcm.go.jp/).

(8)   Deliberate on, and approve, the methodology

After the public comment period ends and comments are handled as needed, the proposed methodology is approved upon deliberation of the Joint Committee. The Joint Committee is held on an irregular basis since it is also responsible for deliberating on other items of the JCM Project Cycle. The methodology that has been approved is published on the JCM website as an approved methodology (AM) for public. This approved methodology will be used as the procedures for the JCM Project Cycle after the methodology development. Approved methodology is updated, whenever necessary, according to changes in the counterpart country's market and technical trends (see chapter 5 for details).

Sufficient Communications with the Supporting Organization
Good communication between the project proponent and the supporting organization is the key to facilitating the entire process from (1) to (8) above. The supporting organization plays a leading role in moving the entire process forward, not limited to methodology, while the main actor of the project is the project proponent. We would like to ask your cooperation for making project management better through active communication and participation in the project, such as by sharing information and opinions between both parties and preparing materials based on the roles assigned to them.

Summary

- Prior to methodology development, existing methodologies need to be checked to find whether they can be used.

- If a new methodology needs to be developed, the supporting organization leads the process and works with the project proponent to develop it.

- Since the project proponent is also a member of team who develops the new methodology, their voluntary and active participation makes it possible to develop a high quality methodology.

- The methodology development process requires meticulous work and takes several months to a year to complete. Therefore, the key to facilitating the process is sufficient communication among stakeholders, including information sharing and active exchange of opinions.

4.   Development of JCM Methodology

JCM methodology has two types of methodology documents—proposed methodology and approved methodology—according to the phase of the development and approval process as described above. Basically, it is composed of ① the main text of methodology, ② a spreadsheet, and ③ additional information.

① Main text of methodology

The main text of methodology contains the name of the subjects covered by the methodology, the definition of terms, the eligible criteria, the formulas of calculating GHG emission reduction, and other relevant information. The main text is written in English.

② Spreadsheet

The names vary depending on the phases and objectives. The Proposed Methodology Spreadsheet (PMS) is used for applied methodology, while approved methodology is composed of the Monitoring Plan Sheet (MPS) and the Monitoring Record Sheet (MRS).

③ Additional information

This is attached only to proposed methodology and contains the grounds for numerical values used in the methodology, the background to the use, and other important information that supplements and complements the methodology but is not suitable to be included in the main text.

4.1.1 Main Text

Cover sheet of the Proposed Methodology Form

A cover sheet is attached to the proposed methodology. The cover sheet should contain the name of the partner country, the name of the applicant, the scope of the target covered by the applied methodology, the name of the applied methodology (including its version), and other relevant information (the actual file image is omitted here).

A) Title of the methodology

The names of technologies and services as stipulated by the methodology are stated here. Its versions and revision history are also recorded for future modifications to the emission factor, etc. *Revision history is recorded at the very bottom of the main text.

B) Terms and definitions

A brief explanation of the main terms used in the methodology (e.g., important parameters in calculation of emission reduction).

C) Summary of the methodology

Content as stipulated by the methodology regarding the four items (① GHG emission reduction measures, ② calculation of reference emissions, ③ calculation of project emissions, ④ monitoring parameters) is briefly explained in the document. Calculation methods with actual formulas included are discussed later, and only the stipulations are explained here.

D)Eligible criteria

The eligible criteria include the following two points:

①　Items necessary for a project to be registered as a JCM project

②　Items necessary for a project to use an approved methodology

The points above also serve as the conditions to determine that the project can be registered as a JCM project using the methodology and also calculate emission reduction. In other words, if a project that is similar to a past project is proposed, the information in this section can also be used to judge the applicability of the existing methodology. Therefore, when considering this section, it is necessary to identify the scope of application and take its versatility into consideration as well.

E) Emission sources and GHG types

All the GHG emission sources and the types of gases that are possible (reasonable) to be generated due to the project are stated in the document after categorizing them into reference emissions and project emissions.

F) Establishment and calculation of reference emissions

The method of calculating reference emissions, which serve as the base for GHG emission reduction attributable to the project implementation, is defined (see 2.3.2 for the details of reference emissions). This section discusses the basis of calculation (F.1) and the calculation formulas (F.2). *See the Guidebook (Collection of Cases) for specific cases for each technical area.

G) Calculation of project emissions

The method of calculating GHG emissions that are produced during the project implementation is defined. The formulas used here are closely linked with the reference emissions above; thus, they are created in conjunction with section F above. There are some cases where the emissions are 0 (zero) for renewable energy, etc. However, due to different concepts depending on conditions, an appropriate calculation method is developed for the project with reference to other methodologies.

H) Calculation of emissions reductions

This section shows the method of calculating emission reduction attributable to a project. Basically, this calculation is made by subtracting project emissions from reference emissions.

Emission reduction = Reference emissions − Project emissions

I)Data and parameters fixed ex ante

The description and sources of the predefined parameters in the calculation formulas of the reference emissions in section F.2 and the project emissions in section G are stated in the document.

Complementary information: History of the document

Revision history, including versions, dates, and modifications, is recorded at the very bottom of the main text. The coefficients used and the relevant scope of a methodology can change due to technological innovation and other factors. For this reason, revisions are possibly made on an as-needed basis even after the methodology development (see chapter 5 for details).

4.1.2 Spreadsheet

The calculation sheet for actually figuring out the GHG emission reduction attributable to a project is created using Microsoft Excel and other types of electronic files.

The spreadsheet is called "Proposed Methodology Spreadsheet" for the proposed methodology and "Monitoring Plan Sheet" or "Monitoring Report Sheet" for the approved methodology, while the basic content is composed of almost all the same items.

Figure 4.1. Approved methodology sample ①

Figure 4.2. Approved methodology sample ②

Figure 4.3. Approved methodology sample ③

Figure 4.4. Approved methodology sample ④

Figure 4.5. Approved methodology sample ⑤

Approved methodology

Monitoring Plan Sheet (to be attached to the PDD)

MPS (input)	Sheet summarizing the coefficients used and the types and description of the values that will actually be measured.
MPS (input_separate)	Numerical values used for entry of the planned values of the values that will be actually measured.
MPS (calc_process)	Sheet summarizing the numerical values to be figured out respectively by breaking down the calculation formula. Entering the MSS implementation system (members and their roles) to clarify the monitoring structure.

Monitoring Report Sheet (for monitoring and verification)

| MRS (input)	Entering the data measured during the monitoring period.
MRS (input_separate)	Entering the data measured during the monitoring period.
MRS (calc_process)	Sheet summarizing the numerical values to be figured out respectively by breaking down the calculation formula.

This sheet is used for monitoring activities, such as calculating the reduction volume, during the project period when the introduced equipment and facilities are in service (within the lifetime of the introduced equipment and facilities). Points to note in creating a spreadsheet are as follows:

· A sheet is created so that monitoring and GHG emission reduction can easily be calculated (doing so helps create an environment that makes it easy for project participants to conduct monitoring activities).

· This spreadsheet allows for calculating numerical values by actually using the calculation formulas described in the main text of the methodology. Attention should also be paid so that the calculation formulas are accurate and that there are no inconsistencies between notations.

· The content and description method of the measurement methods and procedures should also be linked with the main text. Since this is also a description of the method of how to obtain the data for calculating GHG emission reduction, it is important to give consideration to ensure that the content is tailored to the project situation in each methodology.

4.1.3 Additional Information

The main text of a methodology is a format mainly to describe the definition of terms and the method of calculating emission reduction; thus, its basis and other background information should not be included in the main text. If the description of the main text of the methodology above is not informative enough for users to understand, supplemental and additional explanatory information is recorded in a document in Microsoft Word format with relevant figures, etc. included.

There is no specific scope or rules for the details of additional explanatory information. Supplemental information on the main text and the particulars
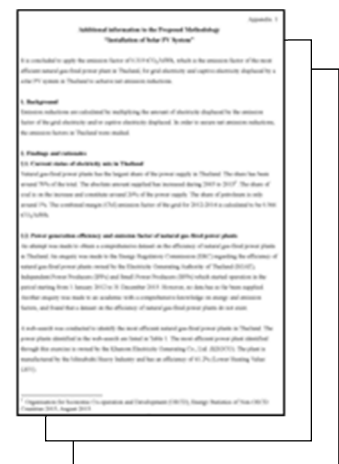
in the spreadsheet can be included. As for the method of description, the content should be described as simply as possible based on scientific grounds (including sources). The description should contain sufficient relevant data, including the background of selecting the numerical values, reference emissions, the method of calculating project emissions, and the grounds for the method of calculating emission coefficients. It is also important that consideration be given so that the description is based on the perspective of project proponents who actually use such data.

4.2 Points to Note in Developing a Methodology

4.2.1 Throughout the Methodology Development Process[5]

The methodology development process and the development methods are discussed in the section above. Concepts that should be kept in mind throughout the methodology development process are outlined as follows:

· Have a third party clearly apply the methodology to the project as well as give an explanation of the procedures in a sufficiently explicit manner for replicating the methodology.
· Ensure that the project conforming to the methodology can be subject to confirmation and/or verification of the validity in the JCM Project Cycle.
· Include in the methodology all the algorithms, formulas, and phased procedures (e.g., calculations of reference emissions and project emissions) that are necessary to check the application of the methodology and the validity of the project.
· Design the JCM methodology so that it is easy to use for project proponents and allows verification organizations to easily verify the data.
· Ensure that the default values are widely used in a conservative manner to reduce monitoring loads.
· Clearly define the eligible criteria to reduce the risk that the project is rejected.

4.2.2 Key Items

Points to note regarding the key items among all the items in JCM methodology are as follows:
(1)Eligible criteria (section D in the main text of methodology)
　　· Must be objectively verifiable by a third party.
　　· Have clear standards and features to determine whether the methodology can be used.
　　· Show the conditions necessary to calculate GHG emission reduction with the algorithms included in the methodology.
　　· Make the validity in the JCM Project Cycle clear at the time of confirmation (no subsequent confirmation and monitoring required).
　　· Ensure that the eligible criteria are demonstrated with a certain threshold, such as performance indicators as well as reliable technical content, and that the criteria conform to the areas applicable to the standards and content.

(2)Establishment and calculation of reference emissions (section F in the main text of methodology)
　　· From the perspective of business operators, even if a similar project is proposed by the counterpart country, in the same way, only one method capable of calculating emission reduction should be included.

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[5] Excerpt from the JCM Guidelines for Developing Proposed Methodology.

· If reference emissions are calculated with the formula "Emission coefficient × Amount of activity (or output volume generated by activities)," the emissions should be lower than the values to be measured in the project. Doing so ensures net emission reduction.

· Reference emissions must be in accordance with the domestic laws of the counterpart country.

· The grounds for, and method of, the calculation are indicated, while the reason why the values are lower than BaU (business as usual) emissions should also be included.

· The calculation methods should be capable of clearly figuring out values and as clear and unique as possible so that they can be employed to confirm or verify the validity by using them in similar projects.

4.2.3 Confirmation by Project proponents

In addition to the information above, other points to confirm and note are summarized as follows in order for project proponents to check the draft methodology developed by supporting organizations. From the standpoint of project proponents specialized in the area to monitor necessary data during a project, they are expected to engage in methodology development.

· Whether the project is applicable to the methodology.

· Whether the content of the methodology (eligible criteria, formula of calculating emissions, reference emissions, etc.) is reasonable and appropriate as compared to technical and local situations.

· Whether the draft methodology under development is versatile from the perspective of project proponents with expert knowledge and experience of the technology (whether the methodology is also applicable to other similar projects).

· Whether the items to be monitored can be continuously measured during the actual project.

Summary

● A methodology is composed of three documents: ① the main text of methodology, ② a spreadsheet, and ③ additional information; the principal part is ① the main text of methodology.

● A predefined format for the structure of the main text of methodology is available; the document is prepared in a simple manner based on the format (see 4.1 above for each item) with reference to existing methodologies.

● Project proponents are expected to provide information based on their professional knowledge while referring to the points to note in developing a methodology (see 4.2 above), as well as to give advice from the standpoint of personnel who actually implement and manage the project.

5.   After Approval of JCM Methodology

A project whose proposed methodology has been turned into an approved methodology after being approved by the Joint Committee with the counterpart country and a project to which an existing methodology can be applied are moved on to the next phase of preparing a Project Design Document (PDD) for project registration. In the same way as methodology development, the phase of preparing a Project Design Document (PDD) moves ahead with a cycle different from a Financing Programme for JCM Model Projects.

The definition, coefficients, and other elements of a methodology can deviate from the actual ones due to environmental and economic changes and technological innovation in the country with the passage of time. Therefore, it is necessary to review the descriptions and update numerical values, etc. on an as-needed basis. Proposed revisions to the developed methodology need to be approved again by the Joint Committee in accordance with the process (4) and onward of 3.2, Development and Approval Process, above. These procedures are mainly handled by the supporting organization.

[Points to note in revising a methodology]

· Update the revision number of the title and record the revision history.

· Cover all the items (including the spreadsheet and additional explanatory information) in the same methodology related to the content to be revised.

· Check the details of similar methodologies in other countries as well as related methodologies using other technologies in the same country.

For those who wish to know a more detailed explanation (cases) of methodology

The Guidebook (Cases studies) is also available. It uses actual cases and makes more detailed explanations of each item in this Guidebook. Due to numerous types of technologies to be introduced in JCM, various methodologies have actually been developed thus far. The Guidebook (Cases studies) uses these actual methodologies and explains methods of developing specific methodologies for each technology and service to be introduced. This is perfect for those who wish to get more practical information for their methodologies!