Joint Crediting Mechanism Guidelines for Developing Proposed Methodology for afforestation/reforestation~~Reducing Emissions from Deforestation and Forest Degradation, and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries (REDD-plus)~~

（第１次ドラフト）

CONTENTS

コメントの追加 [MURC1]: （補足説明）REDD+ではこちらを記載

（補足説明）本ガイドライン案の作成方針

- 既に二国間で合意されている方法論ガイドラインのうち最新である「日・ラオス REDD+方法論ガイドライン」[1]を履歴付きで更新する形で、植林向け方法論ガイドラインの第１次ドラフトを作成した。
- 2022 年度の作業としては、各論点における検討内容とその方向性のすべてを方法論ガイドライン案に書き込むことに注力したところ、次年度以降、複数種ある JCM ガイドライン類にそれぞれの要素を書き分けていく予定。
- 今回検討した各論点（クレジット期間・監視期間、非永続性対処のバッファアプローチ、市場による排出移転、不確実性評価、方法論・PDD の軽微な逸脱（Deviation））については、植林分野だけでなく REDD+分野にも改訂事項として適用予定。一方で、3.2 項に示した対象とする植林活動は、植林分野のみに適用。

[1] https://www.jcm.go.jp/opt/la-jp/rules_and_guidelines/download/reddplus/file_22/JCM_LA_GL_PM_REDD+_ver01.0.pdf

1. Scope and applicability

1. Joint Crediting Mechanism Guidelines for Developing Proposed Methodology for afforestation/reforestation~~Reducing Emissions from Deforestation and Forest Degradation, and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries (REDD-plus)~~ (hereinafter referred to as "these Guidelines") are intended to assist methodology proponents in preparing proposed methodologies for afforestation/reforestation~~REDD-plus~~ under the Joint Crediting Mechanism (JCM).
2. These Guidelines are to be referred to by the Joint Committee in developing and assessing proposed methodologies. These Guidelines are also to be referred to throughout the entire project cycle of a JCM project for afforestation/reforestation~~REDD-plus~~ (hereinafter referred to as "an A/R project").
3. These Guidelines describe standards which are requirements to be met, except guidance indicated with terms "should" and "may" as defined in paragraph 6 below.
4. Submission and subsequent assessment of a proposed methodology are conducted in line with the procedure delineated in Joint Crediting Mechanism Project Cycle Procedure for REDD-plus and afforestation/reforestation.
5. These Guidelines aim to assist the development of methodologies to quantify emissions reductions or removals from afforestation/reforestation. Detailed scope of afforestation/reforestation under the JCM is described in the section 3.2 of these guidelines.~~the five REDD-plus activities listed in the Cancun Agreements (UNFCCC, Decision 1/CP.16 paragraph 70), i.e. (a) reducing emissions from deforestation; (b) reducing emissions from forest degradation; (c) conservation of forest carbon stocks; (d) sustainable management of forests; and (e) enhancement of forest carbon stocks.~~
6. ~~These guidelines are applied to in developing proposed methodology for projects which are to be implemented under the national REDD plus strategy and with respect to the national or any relevant sub-national reference level and forest monitoring system established by the Lao People's Democratic Republic~~

2. Terms and definitions

~~7.~~6. The following terms apply in this Guidelines:

(a) "Should" is used to indicate that among several possibilities, one course of action is recommended as particularly suitable;

(b) "May" is used to indicate what is permitted.

~~8.~~7. Terms in these guidelines are defined in JCM Glossary of Terms available on the JCM website.

コメントの追加 [MURC2]: （補足説明）REDD+版ではこちらを表記

コメントの追加 [MURC3]: （補足説明）REDD+用の既定のため削除（REDD+版では残す）

3. Key concepts

3.1. Project emission reductions or removals to be credited in a JCM project for ~~REDD plus~~ afforestation/reforestation

~~9.~~8. In a A/R ~~JCM~~ project ~~for afforestation/reforestation REDD plus~~, the project emission reductions or removals to be credited are defined as the sum of the annual emission reductions or removals resulting from project activities ~~adjusted using a discount factor for the risk of reversals~~ during a crediting period. A certain portion of the JCM credits issued from the A/R project is deposited as buffer credits in the buffer account in order to ensure the permanence of the JCM credit issued from the project.

~~10.~~9. The annual emission reductions or removals are a conservative estimate of the difference between the project reference level and project net emissions/removals in each year.

~~11.~~10. The project reference level is an estimate of the anticipated annual net emissions/removals in the project area during the monitoring period without the project being implemented. Guidelines for methodologies on setting out the procedures for establishing project reference levels are provided in paragraphs 43 to 46 in these Guidelines.

~~12.~~11. The project net emissions/removals is the sum of actual net emissions/removals in the project area, emissions/removals from the project activities and emissions displaced to outside of the project area by the project activities during the monitoring period. Guidelines for methodologies on setting out the procedures to estimate the project net emissions/removals are provided in paragraphs 47 to 50 in these Guidelines.

~~13. Guidelines for methodologies to determine the discount factor for addressing risk of reversals in full are provided in paragraphs 38 to 41 in these Guidelines.~~

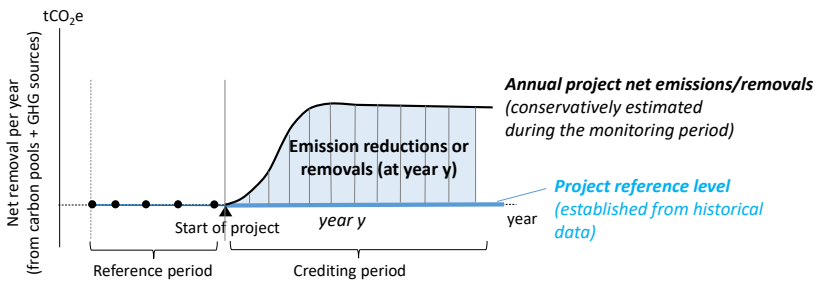


Figure: Relationship between the project reference level, annual project net emissions/removals, annual emission reductions or removals~~, and the annual emission reductions or removals to be credited~~.

コメントの追加 [MURC4]: （補足説明）植林の場合はクレジットになるのは「吸収」だが、REDD+との並びで文言を残している。

コメントの追加 [MURC5]: （補足説明）JCM-REDD+では、国レベルの参照レベルと区別するため JCM プロジェクト用の参照レベルを「project reference level」と規定。現時点では植林プロジェクトでも、いわゆるベースラインを「project reference level」と呼ぶ方針でガイドライン案を作成。

3.2. Scope and criteria for afforestation/reforestation under the JCM

12. Eligible afforestation/reforestation activities under the JCM are those that convert from non-forest to forest through the planting, sowing and human-assisted natural regeneration of woody vegetation.
13. Regarding implementation of an A/R project, project participants ensure by providing no-objection letter from [PARTNER COUNTRY's] government:
    (a) that activity is to convert land use or land cover from non-forest to forest
    (b) that afforestation/reforestation is not to be implemented without the project.
14. Project participants demonstrate that the project area has not been cleared of native ecosystems within the 10 year period before the project start date. In the case when the project area has been cleared during the last 10 years prior to the project start date, the eligibility of the A/R project is determined by the Joint Committee. Project participants provide evidence that such land clearance has not taken place with an intention to implement project activities.
15. Eligible A/R project is to increase carbon stock and/or reduce emissions in the project area by the project activities during the crediting period and to ensure the permanence of the JCM credit issued from the project. The definition of the types of period including crediting period, observation period and project period is provided in the section 4.1 of these guidelines and in the JCM Glossary of Terms.
16. Project participants maintain forest in the project area after the crediting period. Project participants observe the status of forest to the JCM secretariat during the observation period.
17. 【本パラはPCPに記載予定】[Where an event occurs that is likely to qualify as a loss event (see the definition), the project participants notify the JCM secretariat. A loss event report is prepared and submitted to the Joint Committee.~~+~~ Loss events are any events that results in a loss of more than five percent of previously verified emission reductions and removals due to losses in carbon stocks in pools included in the project boundary that is not planned for in the project description (e.g., harvesting as set out in management plans and described in the project description is not a loss event).]
18. Eligible A/R project is to implement the project activities referred to in paragraph 12 above, and to aim for mitigation of climate change as one of the main objectives. Where the A/R project is not economically feasible only by issuance of the JCM credits, such in case investment barriers prevent the implementation of the project, project participants may implement commercial activities (such as timber production) in the project area. Project participants demonstrate economical additionality that economical feasibility of the project is insufficient only by credit issuance nor only commercial activities other than credit issuance.
19. Planting [activity is][tree species are] in line with requirements in PARTNER COUNTRY's

コメントの追加 [MURC6]: （補足説明）本セクションは JCM 植林が対象とする活動に関する規定。

コメントの追加 [MURC7]: （日本語）非森林から森林へ転換する取組を JCM における植林とする。

コメントの追加 [MURC8]: （日本語）対象地での JCM 植林プロジェクト実施について、パートナー国政府から No Objection を取り付ける。取り付けにおいては、プロジェクト対象地が、パートナー国において植林が実行される予定地でなかったことを確認する。

コメントの追加 [MURC9]: （日本語）クレジット期間を通じて対象地における炭素ストック量がプロジェクト開始前よりも増加する活動を対象とする。クレジット期間及び監視期間の定義は、Glossary で規定する。

コメントの追加 [MURC10]: （日本語）プロジェクト対象地はクレジット期間終了後も森林を維持することとする。森林の維持は、監視期間に確認・報告を行う。

コメントの追加 [MURC11]: （日本語）気候変動緩和に貢献することを主目的とした植林活動を対象とする。クレジット創出のみでは事業性が不十分な場合には、収益を補うために他の事業活動（木材生産等）を実施することを認める。プロジェクト実施者は、クレジット創出のみ、あるいはクレジット創出以外の事業活動のみでは事業性が不十分であることをもって、経済的な追加性を証明する。

national biodiversity strategy, the Nationally Determined Contributions [and published document provided by national or regional government including national/regional strategy and/or plan] [and published document provided by international institution]. In case there is no source of information described above, [project participants confirm no objection of planting [activity][tree species] through consultation with government of PARTNER COUNTRY][project participant decides planting tree species ensuring a risk of invasive alien species addressed].

20. For an A/R project with harvesting, the total amount of JCM credits issued does not exceed the cumulative net emission reductions or removals during the entire crediting period. To ensure that, upper limit of the amount of credit issuance is applied based on future harvesting plans. One of approaches to set the upper limit is the long-term average GHG benefit. Details of the approach applying the long-term average GHG benefit are provided in Annex I of these guidelines. Project participants may set their own upper limit of the amount of credit issuance, which is more conservative than the long-term average GHG benefit. In this case, the method to set the conservative upper limit is described in the proposed methodology. In case that the total amount of JCM credits issued is above the cumulative net emission reductions or removals in the project area, it is regarded as a reversal, and project participants compensate the difference between total amount of JCM credits issued and the cumulative net emission reductions or removals by cancellation of their buffer credits.

コメントの追加 [MURC12]: （日本語）植林[活動] [樹種]は、対象国の生物多様性国家戦略、NDC [及び当該国・地域が指定する戦略や計画等の公表文書][国際機関による公表文書]を参照の上、これに沿ったものとする。そうした情報がない場合には、 [先方政府と協議のうえ承諾を得る] [在来種を推奨する]。

コメントの追加 [MURC13]: （日本語）伐採を伴う植林については、クレジット発行量がプロジェクト期間全体の累積正味吸収量を上回らないようにするため、将来の伐採計画を踏まえ、累計のクレジット発行量に上限を設ける。この際、長期平均 GHG 便益の考え方を適用してもよいこととする。長期平均 GHG 便益を用いたアプローチのガイダンスを本ガイドラインの Annex I に示す。また、長期平均 GHG 便益よりも保守的なクレジット発行量上限を定める。その場合は、保守的なクレジット発行上限の設定方法は提案方法論で規定する。クレジット発行量が累計正味吸収量を上回った場合、差分についてバッファクレジットを用いて補填（取消）する。

~~3.2.~~3.3. Eligibility criteria

~~14.~~21. Eligibility criteria in proposed methodologies contain the following:

(a) Requirements for the project in order to be registered as a JCM project.

(b) Requirements for the project to be able to apply the approved methodology.

4. Concept for afforestation/reforestation~~REDD-plus~~ in the JCM

4.1. Period of time

22. Project period consists of the total crediting period and the observation period.

23. Crediting period is the period in which verified emission reductions or removals attributable to a JCM project can result in the issuance of JCM credits from that JCM project. The crediting period for REDD-plus and A/R is a renewable period of a maximum of fifteen (15) years which may be renewed twice at the maximum. [Where possible, the total crediting period for REDD-plus and afforestation/reforestation including renewal of the period should be more than 20 years.]

24. Observation period is the period in which project participants observe emission reductions or removals achieved by the project and potential loss events after the crediting period, as one of means to ensure the permanence of issued JCM credits. The observation period begins

コメントの追加 [MURC14]: （補足説明）クレジット期間（Crediting period），監視期間（Observation period）,プロジェクト期間（ Project period を規定）

at the end of the crediting period.

25. Project participants apply the project period in the way that observation period is at least 10 years, or that project period is at least 30 years, whichever is longer.
26. During the observation period, project participants implement "observation monitoring", described in para 27. In case a loss event occurs, project participants report the event and risk of non-permanence. Buffer credits are cancelled to compensate the loss in accordance with relevant procedures to be determined by Japanese government or the Joint Committee.
27. Observation monitoring is implemented to observe the status of the project area during the observation period by using satellite images, remote sensing and/or others specified in a proposed methodology.

~~3.3.~~4.2. Forest Definition

28. The definition of forest used for afforestation/reforestation~~REDD-plus~~ methodologies should follow the national definition of forest designated by [PARTNER_COUNTRY]~~the Lao People's Democratic Republic~~, as specified in Annex II of these Guidelines. If there is a difference between the national definition of forest and the definition used in a proposed methodology, the reason for selecting the forest definition is explained.

~~15.~~29. Non-forest is the land which does not meet the definition of forest.

~~3.4.~~4.3. Geographical Boundaries

~~16.~~30. The project area ~~and the reference area~~ for the project is~~are~~ identified. A reference area, displacement belt and/or activity area are also identified, when necessary. The project area and the activity area are delineated taking into account forest management units and other administrative boundaries as well as local land management customs.

~~17.~~31. The project area is the area targeted for reducing emissions and/or enhancing removals.

~~18.~~32. The reference area is the area used to establish the project reference level. The reference area is similar to the project area with respect to ~~agents and drivers of deforestation and/or forest degradation,~~ landscape configuration and ecological condition, and socio-economic and cultural conditions.

~~19.~~33. The displacement belt is the area outside the project area where emissions displaced through activity shifting by implementation of the project~~by project activities~~ will be monitored. Guidelines for accounting for displaced emissions are provided in paragraph 484~~835~~ below.

~~20.~~34. The activity area is the area where project activities are implemented to reduce emissions and/or increase removals in the project area and to reduce the risk of the displacement of emissions to other areas.

~~21.~~35. At the time of validation, at least 80 percent of the project area is under the control of

コメントの追加 [MURC15]: （補足説明）植林ではほとんどのケースで不要と考えられるが、任意設定という形で規定を残すこととした。

コメントの追加 [MURC16]: （補足説明）市場による排出移転（リーケージ）の追加に伴う変更、Displacement belt は活動移転による排出移転の方をモニタリングする場所であることを明確化（植林、REDD+共通）

コメントの追加 [MURC17]: （補足説明）Reference area 同様、これも植林ではあまり見られないように思うが（Activity area は、REDD+でいう、プロジェクト対象地の森林を守るためにその脇に設ける生産性の高い農地のようなイメージ）、もともと任意設定であるし、設定の可能性がゼロではないと考えて残すこととした。

the project, and acquisition of the rights of use of the project area to the extent necessary for the project is demonstrated by the project participants with documentary evidence. By the time of the first verification event, the entire project area is under the control of the project, and acquisition of the entire rights of use of the project area to the extent necessary for the project is demonstrated as such by the project participants with documentary evidence.

~~3.5.~~4.4. Carbon pools and GHG sources

~~22.~~36. The carbon stocks to be considered includes each of the following five carbon pools: above ground biomass, below-ground biomass, dead wood, litter and soil organic carbon.

~~23.~~37. GHG sources to be considered are sources such as biomass burning, enteric fermentations of livestock, rice cultivation, and nitrogen fertilization for CH_4 and N_2O and fuel consumed by project activities for CO_2.

~~3.6.~~4.5. Estimation and accounting of net emission/removals[2]

~~24.~~38. The approach and procedures used for the national or any relevant sub-national reference level or forest monitoring system developed by [PARTNER COUNTRY]~~the Lao People's Democratic Republic~~ are respected when developing the project reference level and estimating net emissions/removals of the project. The guidelines in paragraphs 40 to 41 are followed when alternative or additional approaches and procedures are used. The methodology proponents communicate with the technical contact person for REDD-plus and afforestation/reforestation under the JCM to explain the proposed approach and procedures to develop the project reference level and estimate project net emissions/removals, consider any comments and other feedback they receive, and keep records of the communications. The technical contact person for REDD-plus under the JCM is provided on the JCM website.

~~25.~~39. The most recent IPCC guidelines, such as ~~*IPCC*~~ *2006 IPCC Guidelines for National GHG Inventories, 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* or the *IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry*, are used when estimating net emissions/removals.

~~26.~~40. The monitoring of net emissions/removals from the carbon pools in a crediting period should be conducted using a combination of remote sensing and ground-based survey. The best available technology, including novel satellite observation technologies, may be

コメントの追加 [MURC18]: （補足説明）対象とするプール・ガスの相手国 NDC との整合やその調整要否については、JCM 全体での検討に委ねることとし、現時点ではこのパラは REDD+ガイドラインから不変とした。

[2] The following guides may be referred to for the estimation of net emissions/removals:
"REDD-plus Cookbook: How to measure and monitor forest carbon," Forestry and Forest Products Research Institute, 2012: www.ffpri.affrc.go.jp/redd-rdc/ja/reference/cookbook.html
"A sourcebook of methods and procedures for monitoring and reporting anthropogenic greenhouse gas emissions and removals associated with deforestation, gains and losses of carbon stocks in forests remaining forests, and forestation", GOFC-GOLD, 2015: http://www.gofcgold.wur.nl/redd/sourcebook/GOFC-GOLD_Sourcebook.pdf

employed to build effective monitoring systems for net emissions/removals.

(a) Remote sensing: Forest/non-forest, land cover types and forest type should be classified through remote sensing analysis using satellite imageries whose spatial resolution is 30 meters or higher. For the classification of land cover and forest types, classification to reflect the amount of carbon stock per hectare is encouraged and the classification should reflect each country's forest designations. The accuracy of imagery analyses of forest/non-forest classification for each forest type is 80 percent or higher.

(b) Ground-based survey~~ of emission factors~~: Emission factors, or carbon stocks per hectare, of each carbon pool in each class, should be obtained through on-the-ground measurements. If ground measurements are not used, a reasonable explanation is provided, and the IPCC's Emission Factor Database (EFDB), national forest inventories or other internationally recognized data may be used as alternative data sources for the emission factors, with an explanation of the rational for and validity of the data provided.

~~27.~~41. To establish the project reference level, carbon pools and GHG sources can be excluded if their exclusion leads to conservative estimates of emission reductions or removals.

~~28.~~42. To estimate project net emissions/removals, net emissions/removals from all carbon pools and GHG sources should be estimated. However, if the net emission/removals from any carbon pool or any single GHG source due to project activities is estimated to amount to less than five percent of the cumulative~~total~~ net emissions/removals according to measured values or data from the IPCC's guidelines, Emission Factor Database (EFDB), national forest inventories or other internationally recognized sources, a simple but conservative procedure may be used to estimate the amount, and ex post monitoring is not necessary.

~~3.7.~~4.6. Project reference level

~~29.~~43. The project reference level is a projection of the sum of the annual net emissions/removals in the project area in the absence of the project. Project reference levels should be established based on the net emissions/removals from the project area or the reference area during the reference period unless otherwise specified in the proposed methodologies to be conservative.

~~30. The project reference level applies the approach and procedures used for the national or any relevant sub-national reference level established by [PARTNER COUNTRY]the Lao People's Democratic Republic. The guidelines in paragraphs 31 to 32 are followed when alternative or additional approaches and procedures are used.~~

~~31.~~44. The reference period dates back at least 10 years from the start of the project. The methodology proponents may designate a maximum date back period of the historical data to be used for developing the reference levels that is appropriate for the methodology. The data of net emissions/removals to establish the project reference level should be obtained for

コメントの追加 [MURC19]: （補足説明）REDD+用の既定のため削除。

at least four point of times. This means that carbon stock data from at least five points in time are required when using the stock-change method to estimate net emissions/removals.

~~32.~~45. Three approaches for establishing the project reference level are recognized:

(a) Average of annual net emissions/removals during the reference period;

(b) Single regression models of the historical trends of annual net emissions/removals;

(c) Other sophisticated models, including multiple regression analysis of annual net emissions/removals, taking into account possible changes in drivers of deforestation and/or forest degradation, such as changes in demography, agricultural, forestry and other land use activities, and national and/or sub-national circumstances such as land development policies and programs.

~~33.~~46. ~~If a national or relevant sub-national reference level is established or changed after the project start date, the project reference level is reestablished in a consistent manner with the national or relevant sub-national reference level. However, the newly established project reference level cannot be applied retroactively to evaluate net emission reductions or removals. If there is no national or relevant sub-national reference level, t~~The project reference level is reassessed by project participants within five years to ensure that it adequately reflects the actual circumstances of the project area, such as ~~drivers of deforestation and/or forest degradation,~~ activities that lead to land-use changes, and changes of forest management methods. If the result of reassessment shows that the project reference level no longer adequately reflects actual circumstances, the project reference level is reestablished.

コメントの追加 [MURC20]: （補足説明）REDD+に係る記載のため削除。

~~3.8.~~4.7. Project net emissions/removals

~~34.~~47. Project net emissions/removals include (a) the net emissions/removals in the project area, (b) emissions due to the project activities inside and outside the project area including safeguards activities, and (c) displaced emissions in each year during the crediting~~monitoring~~ period.

48. Displaced emissions are emissions displaced from inside to outside the project area as a result of the project activities. The two types of displaced emissions are:

(a) Displaced emissions through activity shifting occurs when the activities with GHG emissions which had been implemented in the project area before the project start date move to an area outside of the project area and continue its emissions elsewhere.

(b) Displaced emissions through change in market occurs when projects reduce the production of a commodity causing a change in the supply and market demand equilibrium that results in a shift of production elsewhere to make up for the lost supply.

~~35.~~49. Displaced emissions through activity shifting is monitored in displacement belt and accounted. Displaced emissions through change in market is encouraged to be accounted.

コメントの追加 [MURC21]: （補足説明）市場による排出移転（リーケージ）の追加に伴う変更（植林、REDD+共通）。
REDD+版では(a)は Displaced emissions through activity shifting occurs when the activities with GHG emissions which has been implemented in the project area when the actual agent of deforestation and/or forest degradation moves to an area outside of the project area and continues its deforestation or degradation activities elsewhere.となる方針。

Any decrease in carbon stocks and increase of emissions outside the project area that are reasonably attributable to the project activities are quantified and accounted as displaced emissions. Any increase in carbon stocks and decrease of emissions compared to the situation without the project outside the project area due to the project activities are excluded from the accounting. The ways and means to identify and quantify displaced emissions are explained in the proposed methodologies.

~~36. The approach and procedures used in any national or sub-national forest monitoring system relevant to the project area established by the Lao People's Democratic Republic are considered when establishing the monitoring system for project net emissions/removals.~~

~~37.~~50. Monitoring is implemented at least just prior to verifications

~~3.9.~~4.8. Project emission reductions or removals to be credited

~~38.~~51. The methodology proponents demonstrate that the method to estimate annual emission reductions or removals is conservative.

52. As provided in the figure 1 in the section 3, annual project emission reductions or removals to be credited are calculated for each year from the project reference level and the project net emissions/removals. Their sum is the project emission reductions or removals to be credited during a monitoring period.

~~39.~~ In order to ensure that reversals are addressed in full when reversals of emission reductions or removals occur, a portion of issued JCM credits is deposited as buffer credits in the buffer account of the JCM registry. Details of this buffer approach are provided in Annex III of these guidelines. ~~discount factor, considering internal risks (such as risks arising from inadequate project management, loss of financial viability, increased opportunity costs, and reduction of project longevity), external risks (such as risks caused by issues associated with land ownership and resource use rights, community engagement, and political matters) and natural risks (such as risks associated with unprecedented forest fires, pests and disease outbreaks, extreme weather patterns, and geological events). The default value of the discount factor is 30 percent. The proposed methodologies may use the default value and/or provide a procedure that the project participants can apply to develop a project specific discount factor to deal with the risk of reversals, with the justification for the procedure provided.~~

~~40.~~53. ~~The discount factor is reassessed at the time of verification. If the result of reassessment shows that the discount factor no longer adequately reflects actual circumstances, the discount factor is reestablished. However, a newly established discount factor cannot be applied retroactively to calculate project emission reductions or removals to be credited before the reassessment.~~

54. 【本パラはPCPに記載予定】The amount of credits issued to each account (the accounts

コメントの追加 [MURC22]: （補足説明）従来の割引アプローチからバッファアプローチへの変更に伴う修正。（植林、REDD+共通）

of project participants of both sides, the buffer account[s]) is described in Credits Issuance Request Form by project participants, and is to be approved by the Joint Committee.

55. The project participants reduce, as far as is practical, uncertainties related to the quantification of emission reductions or removals. Project participants quantitatively estimate uncertainties. Procedures to estimate uncertainties are described in the proposed methodology, in line with the most recent IPCC guidelines. Deductions of emission reductions or removals by using conservative factors are applied if the estimation of uncertainties exceeds a certain percentage, in line with the method specified in the proposed methodology, depending on the result of quantitative estimation of uncertainties.

コメントの追加 [MURC23]: （補足説明）不確実性のルール変更（定量評価と必要に応じた割引を求めることを追加）に伴う修正。（植林、REDD+共通）

~~4.~~5. General Guidelines

~~41.~~56. Methodology proponents prepare the proposed methodology by filling in the Proposed Methodology Form and the Proposed Methodology Spreadsheet, attached to these Guidelines.

~~42.~~57. These Guidelines, the Proposed Methodology Form and the Proposed Methodology Spreadsheet may be obtained electronically from the JCM website.

~~43.~~58. The Proposed Methodology Form and the Proposed Methodology Spreadsheet are completed in English language.

~~44.~~59. Methodology proponents provide supporting documents to justify key logical and quantitative assumptions regarding the choice of eligibility criteria, default values and establishment of reference emissions.

~~45.~~60. The Joint Committee develops the Proposed Methodology Form and the Proposed Methodology Spreadsheet and may revise them if necessary.

~~46.~~61. The Proposed Methodology Form is not altered, that is, is completed without modifying its format, font, headings. If sections of the Proposed Methodology Form are not applicable, it is explicitly stated that the section is left blank on purpose.

~~47.~~62. The Proposed Methodology Spreadsheet enables calculation of project emission reductions or removals to be credited automatically through inputting values by project participants. The Proposed Methodology Spreadsheet consists of the following:

(a) An Input Sheet containing all the parameters to be monitored *ex post*, project-specific parameters to be fixed *ex ante* by the project participants (e.g. historical data) as well as the default factors which can be changed by the project participants. For each parameter, the methodology proponents fill in all the required fields, except for those of the inputted values;

(b) A Calculation Process Sheet containing all the default values which cannot be changed by the project participant, calculation process to derive project reference level and project net emissions/removals, and the resulting project emission reductions or

removals to be credited.

~~48.~~63. The proposed methodology:

(a) Describes the procedures in a manner that is sufficiently explicit to enable the methodology to be used, be applied to projects unambiguously, and be reproduced by a third party;

(b) Is possible for projects following the methodology to be subjected to JCM validation and/or verification;

(c) Includes all algorithms, formulae, and step-by-step procedures needed to apply the methodology and validate the project, i.e. calculating project reference level, project net emissions/removals and project emission reductions or removals to be credited;

(d) Provides instructions for making any logical or quantitative assumptions that are not provided in the methodology and is made by the methodology user;

(e) Avoids the intentional increase of credits caused by perverse incentives (e.g. when an increase in output is triggered by incentive to increase credits).

64. The presentation of values in the Proposed Methodology Form and the Proposed Methodology Spreadsheet should be in international standard format (e.g. 1,000 representing one thousand and 1.0 representing one). The units used should be accompanied by their equivalent S.I. units/norms (thousand/million) as part of the requirement to ensure transparency and clarity.

65. Projects may deviate from the procedures set out in methodologies in certain cases, where alternative methods may be more efficient for project-specific circumstances, and where the deviation will achieve the same level of accuracy or is more conservative than what is set out in the methodology.

66. Deviations from the approved methodology are permitted where they represent a deviation from the procedures relating to monitoring, measurement and/or calculation set out in the section F. to J. of the approved methodology (e.g., data, parameters and equations available at validation, data and parameters monitored, or the monitoring plan). Deviations relating to any other part of the methodology are not permitted. Methodology deviations do not negatively impact the conservativeness of the quantification of the project emission reductions or removals, except where they result in increased accuracy of such quantification.

67. Methodology deviations are permitted at validation or verification and their consequences are reported in the validation or verification report, as applicable, and all subsequent verification reports.

~~49.~~

コメントの追加 [MURC24]: （補足説明）微小排出源対応のための deviation ルールの追加。（植林、REDD+共通）

~~5.~~6. Instructions for completing the Proposed Methodology Form

Instructions for completing the Proposed Methodology Form are provided below. A hypothetical

proposed methodology is inserted to enhance the clarity of these Guidelines. This methodology is purely indicative and does not imply that the methodology is to be adopted.

Cover sheet of the Proposed Methodology Form

Form for submitting the proposed methodology for afforestation/reforestation~~REDD plus~~

Partner Country	Country XYZ
Name of the methodology proponents submitting this form	Company DEF
Title of the proposed methodology, and version number	Afforestation/reforestation without timber harvesting in country XYZ Version 1.0
List of documents to be attached to this form (please check):	☒The attached draft JCM-PDD: ☐Additional information
Date of completion	1/10/2024

コメントの追加 [MURC25]: （補足説明）記載例（赤字）について、植林向けに更新済み。

- *Provide an unambiguous title for the proposed methodology. The title should reflect the types of afforestation/reforestation~~REDD plus~~ activities to which the methodology is applicable and include the approach or activity(ies) for achieving emission reductions or removals.*
- *Provide a list of any additional documents to be attached to this form.*
- *Provide the date of submission in DD/MM/YYYY.*

History of the proposed methodology

Version	Date	Contents revised
01.0	1/10/2024	First edition

- *Provide the version number and date of submission in DD/MM/YYYY.*
- *If a previously submitted methodology has been revised, provide the date of revision in DD/MM/YYYY as well as a brief summary of the revision.*

A. Title of the methodology

Afforestation/reforestation without timber harvesting in country XYZ Version 1.0

- *Provide an unambiguous title for the proposed methodology and the version number of the proposed methodology. The title should reflect the types of*

afforestation/reforestation~~REDD plus~~ activities to which the methodology is applicable and include the approach or activity(ies) for achieving emission reductions or removals.

B. Terms and definitions

Terms	Definitions

- *Please provide definitions of key terms that are used in the proposed methodology.*

C. Summary of the methodology

Items	Summary
Project activities (emission reduction or removal enhancement measures)	Plantation and assisted natural regeneration of trees, whose species are approved by the government of country XYZ to plant.
Establishment of project reference level	The project reference level is set based on the situation in the project area below: - whether there are some carbon stocks in the project area before the project start date, and whether the existing carbon stocks is to be changed between without-project scenario and project scenario, - Whether any emissions (CH_4 and N_2O emissions from biomass burning) is occurred in the project area in without-project scenario.
Calculation of project net emissions/removals	Project net emissions/removals are calculated on the basis of the monitored carbon stock change of two carbon pools, above-ground biomass and below-ground biomass of planted or naturally regenerated trees over the monitoring period, from last verification to current verification. Net CO_2 emissions and GHG emissions in the project area from implementation of project activity are monitored and accounted. Displaced emissions is assumed as zero.

Monitoring parameters and methods	Number of trees planted or naturally regenerated by human assistance – monitored by direct measurement and using project records or by remote sensing. Mean annual change in above-ground biomass – monitored by direct measurement and calculated by using allometric equations sourced from peer-reviewed thesis or other scientific evidence Burned area – monitored by remote sensing or direct measurement Use of fuel for project activities – monitored using project records
Calculation of project emission reductions or removals to be credited	Calculating the project emission reductions or removals in a conservative manner. This includes the estimation and potential deduction for uncertainties related to the quantification of emission reductions or removals.

- *Summarize the key elements of the proposed methodology, including brief descriptions of:*
  - *Project activities (i.e. removal enhancement~~emission reduction~~ measures);*
  - *Establishment of the project reference level;*
  - *Estimation of project net emissions/removals;*
  - *Key monitoring parameters and methods;*
  - *Determination of the buffer ratio~~discount factor~~ for risk of reversals.*

D. Eligibility criteria

This methodology is applicable to projects that satisfy all of the following criteria.

Criterion 1	The project is to enhance CO_2 removals through plantation and/or assisted natural regeneration of trees whose species approved by the government of country XYZ to plant. Through the project activities, the project area converted to forest from non-forest.
Criterion 2	Project participants demonstrate that the project area has not been cleared of native ecosystems within the 10 year period before the project start date.
Criterion 3	The project area does not include forest on peat soil. Peat is defined as organic soil with at least 65% organic matter and a minimum thickness of 50 cm.
Criterion 4	As for A/R projects without timber harvesting, legal or illegal logging to supply commercial timber to regional, national or international timber markets is not

	implemented in the project area in the crediting period. Harvesting to assist growth of remaining trees such as plowing and thinning can be implemented as the project activity.
Criterion 5	Where the A/R project is not economically feasible only by issuance of the JCM credits, such in case investment barriers prevent the implementation of the project, project participants may implement commercial activities (such as timber production) in the project area. Project participants demonstrate economical additionality that economical feasibility of the project is insufficient only by credit issuance nor only commercial activities other than credit issuance.
Criterion 6	Project participants provide the documented evidence that any economic activity including agriculture which had been implemented in the project area before the project start date and had had negative environmental and social impacts is not displaced to outside of the project area.
Criterion 7	Documented evidence that three carbon pools of dead wood, litter and soil organic carbon can be conservatively excluded from estimation of project emission reductions or removals to ensure that net emission reductions or removals are not overestimated.

- *Eligibility criteria are requirements for the project in order for it to be able to apply the approved methodology and registered as a JCM project for afforestation/reforestation~~REDD plus~~.*
- *Eligibility criteria are those that can be examined objectively.*
- *Eligibility criteria include:*
  - *Characteristics to identify the measures applied to the methodology;*
  - *Conditions that are necessary in order to enable robust calculation of emission reductions or removals by the methodology, e.g. the situation before the implementation of the activity;*
- *Eligibility criteria should be, to the extent possible, those that can be ascertained upon validation, i.e. eligibility criteria should avoid those which need to be monitored ex post. For example, actual performance of a measure should not be included as eligibility criteria, since it is not certain at validation whether the stated performance can be achieved. On the other hand, performance as defined by scientifically referenced figures can be included as eligibility criteria since it can be readily checked upon validation.*

[XX]. Demonstration of economical additionality

コメントの追加 [MURC26]: （補足説明）経済的追加性の証明に係る本項は PDD-GL に PDD 様式の一項目として位置付ける予定。

- *Demonstrated economical additionality. Existing tool for additionality demonstration such as "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" may be applied.*

E. Geographical Boundaries

Essential

Geographical boundary	Requirements
Project area	No additional requirements.
~~Reference area~~	~~The reference area includes the project area for the determination of the initial project reference level, but excludes the project area when the reference level is reassessed.~~

Optional boundaries

Geographical boundary	Required (Y/N/TBD)	Additional requirements / Remarks
Reference area	N	No need, the reference level is set based on the historical data, current situation and assumption about the future situation in the project area (assumed as zero).
Activity area	N	No need, the project activities are implemented only in the project area.
Displacement belt	N	No need, there is no displacement of net GHG emissions/removals caused by implementation of the project activity.

TBD: to be decided by the project proponent

- *Describe any requirements additional to those described in paragraphs 30 to 35 of these guidelines for the establishment of the geographical boundaries.*
- *Identify whether a~~n~~ reference area, activity area and/or displacement belt are required in the methodology, or whether the project participants are left to decide (to be decided – TBD) whether the project design includes these areas.*

F. Carbon pools and GHG sources

The net emission sources to be considered include all the following Carbon pools and GHG sources.

Project reference level			
Carbon pools and GHG sources		Included (Y/N)	Explanation
Carbon pools	Above ground biomass	Y	This methodology applies to projects where carbon stock change in this pool may be significant.
	Below ground biomass	Y	This methodology applies to projects where carbon stock change in this pool may be significant.
	Dead wood	N	This methodology applies to projects where carbon stock change in this pool is not significant; Can be conservatively excluded.
	Litter	N	This methodology applies to projects where carbon stock change in this pool is not significant; Can be conservatively excluded.
	Soil organic carbon	N	This methodology applies to projects where carbon stock change in this pool is not significant; Can be conservatively excluded.
GHG sources	CH_4 in biomass burning		This methodology applies to projects where GHG emission from this source may be significant.
	N_2O in biomass burning		This methodology applies to projects where GHG emission from this source may be significant.
	N/A		N/A
Project net emissions/removals			
Carbon pools and GHG sources		Included (Y/N)	Explanation
Carbon pools	Above ground biomass	Y	This methodology applies to projects where carbon stock change in this pool may be significant.
	Below ground	Y	This methodology applies to projects where

	biomass		carbon stock change in this pool may be significant.
	Dead wood	N	This methodology applies to projects where carbon stock change in this pool is not significant; Can be conservatively excluded.
	Litter	N	This methodology applies to projects where carbon stock change in this pool is not significant; Can be conservatively excluded.
	Soil organic carbon	N	This methodology applies to projects where carbon stock change in this pool is not significant; Can be conservatively excluded.
GHG sources	CH_4 in biomass burning		This methodology applies to projects where GHG emission from this source may be significant.
	N_2O in biomass burning		This methodology applies to projects where GHG emission from this source may be significant.
	CO_2 in combustion of fossil fuels		This methodology applies to projects where GHG emission from this source may be significant.

- *Identify which of the five carbon pools are included in the establishment of the project reference level and the estimation of project net emissions/removals.*
- *Identify GHG sources that are reasonably attributable to the methodology.*

G. Establishment and calculation of project reference level

G.1. Establishment of project reference level

~~Approach for estimating project reference level~~	~~The project reference level is established by a conservative estimation of the average historical net CO_2 emissions and GHG emissions.~~

Approach for estimation of project reference level

In case there are some carbon stocks (e.g. trees, small bushes and shrubs) in the project area before the project start date, the project reference level is set based on the procedure as below;
(a) Case 1: Existing carbon stocks is to be changed between without-project scenario and project scenario

コメントの追加 [MURC27]: （補足説明）REDD+の参照レベルの設定方法を選択（REDD+方法論 GL に示された、①過去排出・吸収量の平均値、②過去トレンドの直線回帰、③モデル計算から選択）するための欄。植林 GL では削除。

Emissions/removals is estimated from the carbon stock change of existing biomass in without-project scenario and accounted to the project reference level.

(b) Case 2: Existing carbon stocks is not to be changed between without-project scenario and project scenario

Emissions/removals from the carbon stock change of existing biomass is assumed to be zero.

In case any emissions (e.g. CH_4 and N_2O emissions from biomass burning) occurred in the project area in without-project scenario, the emissions is estimated and accounted to the project reference level.

G.2. Calculation of project reference level

The project reference level at year *y* during the proposed monitoring period is calculated as follows:

$$RL_y = \Delta CS_{ref\,y} * 44/12 + L_{fire\_ref\,y} \quad \text{(Equation 1)}$$

RL_y Project reference level at year *y* [tCO2e]

$\Delta CS_{ref\,y}$ Projected carbon stock change in project area at year *y* [tC]

44/12 Conversion factor of molecular weight of carbon to CO_2

$L_{fire\_ref\,y}$ Projected amount of CH_4 and N_2O emissions from biomass burning in project area at year *y* [tCO2e]

Carbon stock change at year *y* in the project area is projected using the following equation.

$$\Delta CS_{ref\,y} = \Sigma\,(C_{yri} - C_{yri+1}) / \Sigma\,(yr_{i+1} - yr_i) \quad \text{(Equation 2)}$$

$\Delta CS_{ref\,y}$ Projected carbon stock change in project area at year *y* [tC]

C_{yr} Carbon stock in the project area at year *yr* during the reference period [tC]

yr_i Years during the reference period

CH_4 and N_2O emissions from biomass burning in the project area are projected using the following equation.

$$L_{fire\_ref,y} = \Sigma_{yr}\, L_{fire\_ref,yr} / nyr \quad \text{(Equation 3)}$$

$L_{fire\_ref,y}$ Projected amount of CH_4 and N_2O emissions from biomass burning in the project area at year *y* [tCO_2e]

$L_{fire\_ref,yr}$ Historical amount of CH_4 and N_2O emissions from biomass burning in the project area at year *yr* during the reference period [tCO_2e]

nyr Number of monitored years during the reference period

$L_{fire\_ref,y} = AB_{j,yr} * MB_j * C_f * G_{ef} * 10^{-3} * GWP$ (Equation 4)

$L_{fire\_ref,yr}$	Amount of CH_4 and N_2O emissions from biomass burning in the project area at year *yr* during the reference period [tCO_2e]
$AB_{j,yr}$	Area burnt in stratum *j* in the project area at year *yr* [ha]
MB_j	Mass of fuel available in the project area for combustion in stratum *i* [t ha^{-1}]
C_f	Combustion factor for forest fire
G_{ef}	Emission factor for forest fire [g kg-dm $burnt^{-1}$]
GWP	Global Warming Potential (25 for CH_4 and 298 for N_2O)

Data of "MB_j", "C_f" and "G_{ef}" can be sourced from 2006 IPCC guidelines.

Carbon pools and GHG sources can be excluded, if their exclusion leads to conservative estimates of the emission reductions.

- *Provide a qualitative explanation of the procedure to establish the project reference level referring to paragraphs 43 to 46 of these Guidelines.*
- *Provide the equations to establish the project reference level.*
- ~~*Provide a description of how the approach and procedures used in any national or sub-national reference level relevant to the project area are considered.*~~
- *Elaborate the method to calculate the project reference level. Be specific and complete, so that the procedure can be carried out in an unambiguous way, replicated, and subjected to assessment and verification:*
  - *Use consistent variables, equation formats, subscripts, etc.;*
  - *Number all equations in the Proposed Methodology Form;*
  - *Define all variables, with units indicated;*
  - *Justify the conservativeness of the calculation method, e.g. discounting the result of calculation and applying conservative parameters.*
- *Elaborate all parameters, coefficients, and variables used in the calculation of the project reference level:*
  - *For those values that are provided in the methodology:*
    - *Clearly indicate the precise references from which these values are taken (e.g. official statistics, IPCC Guidelines, commercial and scientific literature).*
    - *Justify the conservativeness of the values provided.*
  - *For those values that are to be provided by the project participants, clearly indicate how the values are to be selected and justified, for example, by explaining:*
    - *What types of sources are suitable (official statistics, expert judgment, proprietary data, IPCC Guidelines, commercial and scientific literature, etc.);*

- *The vintage of data that is suitable;*
- *What spatial level of data is suitable (local, regional, national, international);*
- *How conservativeness of the values is to be ensured.*

- *For all data to be used by the project participants, specify the procedures to be followed if the site-specific historical data are unavailable. For instance, the methodology could point to a preferred data source, and indicate a priority order for use of additional data and/or fall back data sources to preferred sources (e.g. private, international statistics, etc.).*
- *Note any parameters, coefficients, variables, etc. that are used to calculate the project reference level and that should be obtained by project proponent.*
- *Explain any parts of the calculation method that are not self-evident. Provide references as necessary. Explain implicit and explicit key assumptions in a transparent manner.*
- *For methodologies requiring sampling, clearly indicate the sampling method and the statistical treatment of the sampled data.*

H. Calculation of project net emissions/removals

Project net emissions/removals at year *y* during the monitoring period are calculated on the basis of monitored carbon stock change, emissions from other GHG sources and displacement during the monitoring period as follows:

$$PE_y = \Delta CS_{PJ,y} * 44/12 + L_{fire\_PJ,y} + E_{energy,PJ,y} + DE_y \quad \text{(Equation 5)}$$

PE_y	Project net emissions/removals at year *y* [tCO2e]
$\Delta CS_{PJ,y}$	Carbon stock change in the project area at year *y* [tC]
$L_{fire\_PJ,y}$	Amount of non-CO_2 emissions from biomass burnng in the project area during year *y* [tCO2e]
$E_{energy,PJ,y}$	Amount of CO_2 emissions from energy use during year *y* [tCO2]
DE_y	Displacement of emissions at year *y* [tCO2e]
44/12	Conversion factor of molecular weight of carbon to CO_2

(a) Carbon stock change in the project area at year *y* is estimated using the following equation.

$$\Delta CS_{PJ,y} = \Sigma (NUM_i * \Delta BM_{i,y} * (1+R_i) * CF_i) \quad \text{(Equation 6)}$$

$\Delta CS_{PJ,y}$	Carbon stock change in the project area at year *y* [tC]
NUM_i	Number of trees of tree species *i* planted or naturally regenerated

by human assistance in the project area [tree]

$\Delta BM_{i,y}$ Mean annual change in above-ground biomass per tree of tree species *i* at year *y* [t-dm/tree/y]

R Root-shoot ratio for planted trees [dimensionless]

CF Carbon fraction of tree biomass [tC/t-dm]

Data for "NUM" are generated by direct monitoring. The number of sample plots is determined to provide estimates in the net change in carbon stocks to within 10 per cent of the true value of the mean at the 95 per cent confidence level.

Data for "ΔBM_y" can be calculated based on data of direct measurement and allometric equations sourced from peer-review thesis or other scientific evidence.

Data for "R" and "CF" can be sourced from 2006 IPCC guidelines.

(b) For non-CO_2 emissions (CH_4 and N_2O) from biomass burning in the project area during year *y*, the equation below is used.

$$L_{fire\_PJ,y} = \Sigma_{yr} L_{fire\_PJ,y} / ny \quad \text{(Equation 7)}$$

$L_{fire\_PJ,y}$ Amount of CH_4 and N_2O emissions from biomass burning in the project area during year *y* [tCO_2e]

$L_{fire\_PJ,y}$ Amount of CH_4 and N_2O emissions from biomass burning in the project area at year *y* during the monitoring period [tCO_2e]

ny Number of monitored years during the monitoring period

$$L_{fire\_PJ,y} = AB_{j,ym} * MB_j * C_f * G_{ef} * 10^{-3} * GWP \quad \text{(Equation 8)}$$

$L_{fire\_PJ,y}$ Amount of CH_4 and N_2O emissions from biomass burning in the project area at year *y* during the monitoring period [tCO_2e]

$AB_{j,ym}$ Area burnt in stratum *j* in the project area at monitoring year *ym* [ha]

MB_j Mass of fuel available for combustion in stratum *i* [t/ha]

C_f Combustion factor for forest fire

G_{ef} Emission factor for forest fire [g kg-dm burnt $^{-1}$]

GWP Global Warming Potential (25 for CH_4 and 298 for N_2O)

Data for "$AB_{j,ym}$" is generated by direct monitoring using remotely sensed imagery.

Data for "MB_j", "C_f" and "G_{ef}" can be sourced from 2006 IPCC guidelines.

(c) For CO_2 emissions from combustion of fossil fuels for project activities such as from transport and machinery use at year *y*, the equation below is used.

$$E_{energy,PJ,y} = LC_y * CC * ODU * 44/12 \quad \text{(Equation 9)}$$

$E_{energy,PJ,y}$	Amount of CO_2 emissions from energy use during year *y* [tCO_2]
LC_y	Consumption of fuel at monitoring year *y* [TJ]
CC	Carbon content of fuel [kt-C /TJ]
ODU	Oxidized during use factor
44/12	Conversion factor of molecular weight of carbon to CO_2

Data of "LC_y" is collected by purchase receipt and/or other documental evidence.
Data of "CC" and "ODU" is sourced from 2006 IPCC guidelines.

Net emissions from any carbon pools and GHG sources whose amount is less than 5% of cumulative emissions can be estimated using simple measures, such as by using reference data, rather than direct monitoring.

(d) Displaced emissions (DE_y) is assumed to be zero.

Uncertainties are estimated based on procedures provided in 2006 IPCC guidelines.

- *Provide a qualitative explanation of the procedure to calculate the project net emissions/removals referring to paragraph 47 to 50 of these Guidelines.*
- *Provide the equations to calculate the project net emissions/removals.*
- ~~*Provide a description of how the approach and procedures used in any national or sub-national forest monitoring system to the project area are considered.*~~
- *Where applicable, the method to calculate project net emissions/removals should adhere to the instructions provided in the section on project reference level.*
- *Explain the method to estimate the displaced emissions, including the method to determine the displacement belt, if necessary.*
- *Explain the method to quantitively estimate uncertainties. Explain the method of deductions of emission reductions or removals by using conservative factors, depending on the result of quantitative estimation of uncertainties, where necessary.*

コメントの追加 [MURC28]: （補足説明）不確実性のルール変更（定量評価と必要に応じた割引を求めることを追加）に伴う修正。（植林、REDD+共通）

I. Calculation of project emissions reductions or removals to be credited

コメントの追加 [MURC29]: （補足説明）バッファアプローチへの変更に伴う修正（植林、REDD+共通）

Project emission reductions or removals at year *y* are calculated as the difference between the project reference level and the project net emissions/removals.
Annual emission reductions are calculated using the equation below.

$ER_y = RL_y - PE_y$ (Equation 10)

ER_y Project emission reductions or removals at year y [tCO_2e]

RL_y Project reference level at year y [tCO_2e]

PE_y Project net emissions/removals at year y [tCO_2e]

~~Annual project emission reductions or removals to be credited are calculated using Equation 14, which includes discounting for the risk of reversals.~~

~~A default value of 30% is applied for the discount factor.~~

~~$ER_{credt,y} = ER_y * (1 - DF)$ (Equation 14)~~

~~$ER_{credt,y}$ Project emission reductions to be credited at year y [tCO_2e]~~

~~ER_y Project emission reductions at year y [tCO_2e]~~

~~DF Discount factor, default as 0.3~~

Project emission reductions to be credited during a monitoring period p are calculated as follows:

$ER_p = \Sigma ER_y$ (Equation 11)

ER_p Project emission reductions or removals during a monitoring period p [tCO_2e]

$ER_{credt,y}$ Project emission reductions or removals at year y during monitoring period p [tCO_2e]

- *Provide a description of how estimation of the emission reductions or removals is conservative.*
- *Elaborate the calculation method used to estimate, measure or calculate annual project emission reductions or removals to be credited. In most cases, this will be simple equation with two terms: project reference level and project net emissions/removals.*
- ~~*When the 30% default value is not used for the discount factor, elaborate the procedure to identify the risk of reversals and set the discount factor.*~~

J. Data and parameters fixed *ex ante*

The source of each data and parameter fixed *ex ante* is listed as below.

Parameter	Description of data	Source
ΔBM_i	Mean annual change in above-ground biomass	Calculated based on data of

	per tree of tree species *i* at year *y*	direct measurement and allometric equations sourced from peer-review thesis or other scientific evidence
R_i	Root-shoot ratio for planted tree species *i*	2006 IPCC Guidelines Vol.4 (Table 4.4)
CF_i	Carbon fraction of tree biomass for planted tree species *i*	2006 IPCC Guidelines
MB_j	Average Mass of fuel available for combustion of stratum *j* per hectare	2006 IPCC Guidelines
C_f	Combustion factor. Shown in value together with MB_j.	2006 IPCC Guidelines Vol.4 (Table 2.6)
G_{ef}	Emission factor for biomass burning	2006 IPCC Guidelines
GWP	Global Warming Potential	2006 IPCC Guidelines
CC	Carbon content of oil	2006 IPCC Guidelines
ODU	Oxidized during use factor	2006 IPCC Guidelines

- *Identify sources of default values, where default values are applied to the proposed methodology.*

~~6.~~7. Instructions for completing the Proposed Methodology Spreadsheet

Instructions for completing the Proposed Methodology Spreadsheet are provided below. The Input Sheet of the Proposed Methodology Spreadsheet is completed. A hypothetical Input Sheet of the Proposed Methodology Spreadsheet is inserted to enhance the clarity of these Guidelines. This is purely indicative and does not imply that the Input Sheet of the Proposed Methodology Spreadsheet is adopted.

Proposed methodology spread sheet (input sheet) [Attachment to Proposed Methodology Form]

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)	*NUMi*	Number of trees of tree species *i* planted or naturally regenerated by human assistance in the project area	→*Table 1-a.*	-	Option C	Direct monitoring	Direct monitoring in sample plots	Once a year	-
(2)	$AB_{j,yr}$	Area burnt in stratum (= land use type) *j* at year *yr* during monitoring period.	→*Table 1-a.*	ha	Option C	Landsat imagery	Analyzing multispectral optical satellite imagery	Once every three years	-
(3)	*LCy*	Consumption of fuel at monitoring year *yr*	→*Table 1-b.*	TJ	Option B	Purchase record, etc	Data collected by purchase receipt and/or other documental evidence	Once a year	-

Table 1-a. Area of stratum *i* and area burnt in stratum *i* at year *ym* during monitoring period

Year during the monitoring period	(1) Number of trees (-): NUM_i			(2) Burnt area (ha): $AB_{i,y}$		
	Acacia mangium	Eucalyptus globulus		Plantation forest	Non-forest	
	NUM_2	NUM_2		$A_{1,y}$	$AB_{1,2,y}$	
yr1						
yr2						
yr3						
yr4						
yr5						
…						

Table 1-b. Project fuel consumption

Year	(3) Consumption of fuel (TJ): *LCy*
yr1	
yr2	
yr3	
yr4	
yr5	
….	

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

(a)	(b)	(c)	(d)	(e)	(f)
Parameters	**Description of data**	**Estimated value**	**Units**	**Source of data**	**Other comments**
ΔBM_i	Mean annual change in above-ground biomass per tree of tree species *i* at year *y*		t-dm/trees/y	direct measurement and allometric equations sourced from peer-review thesis or other scientific evidence	
R_i	Root-shoot ratio for planted tree species *i*		-	2006 IPCC Guidelines	
CF_i	Carbon fraction of tree biomass for planted tree species *i*		-	2006 IPCC Guidelines	
MB_j	Average Mass of fuel available for combustion of stratum *j* per hectare		t/ha	2006 IPCC Guidelines	
C_f	Combustion factor. Shown in value together with MB_j.		-	2006 IPCC Guidelines	
G_{ef}	Emission factor for biomass burning		-	2006 IPCC Guidelines	
GWP	Global Warming Potential for CH_4	25	$t\text{-}CO_2e/t\text{-}CH_4e$	IPCC	
GWP	Global Warming Potential for N_2O	298	$t\text{-}CO_2e/t\text{-}N_2Oe$	IPCC	
CC	Carbon content of oil		Kt-C/TJ	2006 IPCC Guidelines	
ODU	Oxidized during use factor		-	2006 IPCC Guidelines	

[Monitoring option]

Option A	Based on public data which is measured by entities other than the project participants (Data used: publicly recognized data such as statistical data and specifications)
Option B	Based on the amount of transaction which is measured directly using measuring equipment (Data used: commercial evidence such as invoices)
Option C	Based on the actual measurement using measuring equipment (Data used: measured values)

The Calculation Process Sheet of the Proposed Methodology Spreadsheet is completed. A hypothetical Calculation Process Sheet of the Proposed Methodology Spreadsheet is provided below to enhance the clarity of these Guidelines. This is purely indicative and does not imply that the Calculation Process Sheet is adopted.

JCM Proposed Methodology Spreadsheet (Calculation Process Sheet)

1. Calculations for project emission reductions or removals to be credited	Pool / Sources	Value	Units	Parameter
Project emission reductions or removals to be credited during the period *p*			tCO2e	ER_p
~~Amount of buffer credit during the period *p*~~			~~tCO2e~~	~~BC_p~~
2. Basic data of the project				
Size of project area	Carbon stock and biomass burning		ha	A_p
Monitoring start date				Y1
Monitoring end date				
3. Selected default values				
Mean annual change in above-ground biomass per tree of *Acacia Mangium*	Above-ground biomass	0.57	t-dm tree^{-1} y^{-1}	BM_1
Mean annual change in above-ground biomass per tree of *Eucalyptus globulus*	Above-ground biomass	0.37	t-dm tree^{-1} y^{-1}	BM2
Ratio to below-ground biomass of all types of forest	Below-ground biomass	37.0	%	R_{AtoB}
Mass of fuel available for combustion * Combustion factor in plantation forest	Biomass burning	119.6 * 0.36	t ha^{-1}	MB_1 * Cf
Mass of fuel available for combustion * Combustion factor in non-forest	Biomass burning	5.5 * 0.80	t ha^{-1}	MB_2 * Cf
Emission factor for forest fires (CH_4)	Biomass burning	6.8	g kg-dm burnt^{-1}	Gef_{CH4}
Emission factor for forest fires (N_2O)	Biomass burning	0.2	g kg-dm burnt^{-1}	Gef_{N2O}
Global Warming Potential (CH_4)	Biomass burning	25	-	GWP

コメントの追加 [MURC30]: （補足説明）行を削除（バッファクレジットを取り置くのはJCMクレジットを発行した後であるため）

Global Warming Potential (N_2O)	Biomass burning	298	-	GWP
Carbon content of oil (Gasoline)	Combustion of fossil fuels from transport and machinery use	18.7	kt-C TJ^{-1}	CC
Oxidized during use factor	Combustion of fossil fuels from transport and machinery use	1.0	-	ODU
4. Calculations for project reference level				
Project reference level at year *y*			tCO2e	$RL_{pj\,y}$
Year during reference period				
yr1				
yr2				
yr3				
yr4				
yr5				
Carbon stock change at year *yr*			tC	$\Delta\ CS_{ref\ y}$
Carbon stock at Yr1			tC	
Non-forest	Carbon stock		ha	$A_{1,yr1}$
Carbon stock at Yr2			tC	
Non-forest	Carbon stock		ha	$A_{1,yr2}$
Carbon stock at year Yr3				
Non-forest	Carbon stock		ha	$A_{1,yr}$
…				
Non-CO_2 emissions from forest fires at year *yr*			tCO2e	$L_{fire\_ref\ y}$
Non-CO_2 emission at year Yr1			tCO2e	
Area of burnt plantation forest at *yr1*	Biomass burning		ha	$A_{1,yr1}$
Area of burnt non-forest at *yr1*	Biomass burning		ha	$A_{1,yr1}$

Non-CO_2 emission at year Yr2			tCO2e	
Area of burnt plantation forest at *yr2*	Biomass burning		ha	$A_{1,yr2}$
Area of burnt non-forest at *yr2*	Biomass burning		ha	$A_{1,yr2}$
Non-CO_2 emission at year Yr3			tCO2e	
Area of burnt plantation forest at *yr3*	Biomass burning		ha	$A_{1,yr3}$
Area of burnt non-forest at *yr3*	Biomass burning		ha	$A_{1,yr3}$
5. Calculations of the project net emissions/removals				
Project net emissions/removals during year *y*			tCO2e	PE_y
Year during first monitoring period				
ym1				
ym2				
ym3				
Carbon stock changes at year *ym*			tC	$\Delta CS_{PJ,y}$
Carbon stock at year *ym1*			tC	
Number of trees of *Acacia Mangium* at year *ym1*	Carbon stock		tree	
Number of trees of Eucalyptus globulus at year *ym1*	Carbon stock		tree	
Carbon stock at year *ym2*			tC	
Number of trees of *Acacia Mangium* at year *ym2*	Carbon stock		tree	
Number of trees of Eucalyptus globulus at year *ym2*	Carbon stock		tree	
Carbon stock at year *ym3*			tC	
Number of trees of *Acacia Mangium* at year *ym3*	Carbon stock		tree	
Number of trees of Eucalyptus globulus at year *ym3*	Carbon stock		tree	
Non-CO_2 emissions from forest fires at year *ym*			tCO2e	$L_{fire\_PJ\,y}$

Non-CO_2 emission at year *ym1*			tCO2e	
Area of burnt plantation forest at *ym1*	Biomass burning		ha	$A_{1,ym1}$
Area of burnt non-forest at *ym1*	Biomass burning		ha	$A_{1,ym1}$
Non-CO_2 emission at year *ym2*			tCO2e	
Area of burnt plantation forest at *ym2*	Biomass burning		ha	$A_{1,ym2}$
Area of burnt non-forest at *ym2*	Biomass burning		ha	$A_{1,ym2}$
Non-CO_2 emission at year *ym3*			tCO2e	
Area of burnt plantation forest at *ym3*	Biomass burning		ha	$A_{1,ym3}$
Area of burnt non-forest at *ym3*	Biomass burning		ha	$A_{1,ym3}$
CO_2 emissions from transport and machinery use during year *y*			tC	$E_{energy,PJ,y}$
Consumption of oil during year *y*			TJ	LC_y
Carbon content of oil (Gasoline)	Combustion of fossil fuels from transport and machinery use		kt-C TJ^{-1}	CC
Oxidized during use factor	Combustion of fossil fuels from transport and machinery use		-	ODU
Displacement of emissions during the period *y*			tCO_2e	DE_y
Displacement of CO2 emissions during monitoring year *ym*	Carbon stock	0	tCO_2	$DE_{CO2,ym}$
Displacement of CH4 and N2O emissions during year monitoring *ym* due to forest fires	Biomass burning	0	tCO_2e	$DE_{fire,ym}$
~~5. Calculation of discount factor~~amount of buffer credit				
~~Discount factor~~Buffer ratio		~~30~~20	~~%~~	

コメントの追加 [MURC31]: （補足説明）行を削除

[List of Default Values]

Mean annual change in above-ground biomass per tree species *i*			
Acacia Mangium	0.57	t-dm/tree/y	BM_1
Eucalyptus globulus	0.37	t-dm/tree/y	BM_2
Ratio to below-ground biomass, all types of forest.	37.0	%	R_{AtoB}

Average mass of fuel available for combustion per hectare			
Plantation forest	119.6 * 0.36	t ha^{-1}	$MB_1 * Cf$
Non-forest	5.5 * 0.80	t ha^{-1}	$MB_2 * Cf$
Emission factor for forest fire			
CH_4	6.8	g kg-dm $burnt^{-1}$	*Gef-CH4*
N_2O	0.2	g kg-dm $burnt^{-1}$	*Gef-N2O*
Global Warming Potential			
CH_4	25	-	GWP
N_2O	298	-	GWP

Carbon content of oil (Gasoline)	18.7	Kt-C TJ^{-1}	CC
Oxidized during use factor	1.0	-	ODU

- *The Input Sheet of the Proposed Methodology Spreadsheet consists of a table of parameters to be monitored ex post, and parameters to be fixed ex ante, which, combined, should provide a complete listing of the data that needs to be collected for the application of the methodology. The tables may include data that is collected from other sources (e.g. official statistics, expert judgment, proprietary data, IPCC Guidelines, commercial and scientific literature, etc.), measured, or sampled. Parameters that are calculated with equations provided in the methodology should not be included in this section.*

For the "Parameters to be monitored ex post"(table 1), the following items are filled:
Parameter: the variable used in equations in the proposed methodology;
Description of data: a clear and unambiguous description of the parameter;
Estimated value: this field is for the project participants to fill in to calculate emission reductions or removals, and may be left blank in the proposed methodology.

Unit: The International System Unit (SI units – refer to <http://www.bipm.fr/enus/3_SI/si.html>)

- *Monitoring option: please select option(s) from below. If appropriate, please provide the order of priority and the conditions when the options are chosen.*

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

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

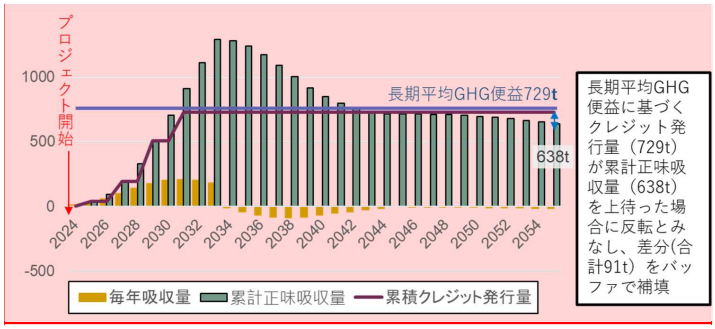
  - *Option C: Based on the actual measurement using measuring equipments (Data used: measured values)*
- *Source of data: A description which data sources should be used to determine this parameter. Clearly indicate how the values are to be selected and justified, for example, by explaining:*
  - *What types of sources are suitable (official statistics, expert judgment, proprietary data, IPCC, commercial and scientific literature, etc.);*
  - *What spatial level of data is suitable (local, regional, national, international).*
- *Measurement methods and procedures: For option B and C, a description of the measurement procedures or reference to appropriate standards. Provide also QA/QC procedures.*
- *Monitoring frequency: A description of the frequency of monitoring (e.g. continuously, annually, etc).*
- *Other Comments: Other input not covered by the items above.*

- *Where applicable, the table "Parameters to be fixed ex ante"(table 2), should also adhere to the instruction provided above. Data that is determined only once and remains fixed should be considered under "J. Data and parameters fixed ex ante".*

Annex I. Guidance on the long-term average GHG benefit

I.1. Objective and procedures of the long-term average GHG benefit

1. A/R projects with harvesting under the JCM cannot issue the JCM credits above the upper limit of credits issuance applied by the project participants. Applying the long-term average GHG benefit ensures that the amount of JCM credits issued from the project does not exceed the cumulative net removals in the project area during the entire crediting period. In case that the amount of JCM credits issued is above the cumulative net removals in the project area, it is regarded as a reversal, and project participants compensate these difference amount by cancellation of their buffer credits.
2. The long-term average GHG benefit is reassessed by project participants at the timing of each verification. If the result of reassessment shows that the long-term average GHG benefit no longer adequately reflects actual circumstances of the project, the long-term average GHG benefit is reestablished.
3. 【本パラは PCP に記載予定】[For A/R projects with harvesting, the sustainable forest management plans, in which project participants describe that the long-term average GHG benefit can be maintained after the project end for a certain period, are submitted with the PDD to the secretariat. In the year in which harvesting is implemented, a report, including information of estimated cumulative net removals in the project area after the harvesting, amount of harvesting and amount of issued credit, is submitted to the secretariat as soon as possible. In case the amount of issued credit is expected to exceed the estimated cumulative net removals, the information of the expected amount of compensation required is also included in the report.]



コメントの追加 [MURC32]: （日本語）伐採を伴う JCM 植林プロジェクトからのクレジットは、長期平均 GHG 便益を上回らない量まで発行することができる。長期平均 GHG 便益等の適用により、クレジット発行量が、クレジット期間及びその後の伐採までを含めた期間を通じた累計吸収量を上回らないようにする。クレジット発行量が累計正味吸収量を上回った場合、（植林分野の定義における）反転とみなされ、差分はバッファクレジットを用いて補填（取消）する。

コメントの追加 [MURC33]: （日本語）長期平均 GHG 便益は、検証のタイミングで見直し、要すれば再設定を行う。

コメントの追加 [MURC34]: （日本語）伐採を伴う植林の場合、PDD に、持続可能な森林経営計画書を添付し、プロジェクト終了後も長期平均 GHG 便益が確保され得る旨を説明するものとする。同計画書の妥当性は JC が確認する。また、伐採時には、伐採時の予想累計正味吸収量、伐採量、クレジット発行量、クレジット発行量が予想累計正味吸収量を上回る見込みがある場合は補填必要見込量を記載した資料を JCM 事務局に提出する。

コメントの追加 [MURC35]: （補足説明）追って英訳のうえ掲載予定

I.2. Calculation method of the long-term average GHG benefit

4. The long-term average GHG benefit is calculated using the following procedure:

(a) Establish the period over which the long-term average GHG benefit is calculated as the following:

i) For afforestation/reforestation projects undertaking even-aged management, the time period over which the long-term GHG benefit is calculated includes at minimum one full harvesting cycle, including the last harvest in the cycle. For example, where a crediting period is 20 years and has a harvest cycle of 12 years, the long-term average GHG benefit will be determined for a period of 24 years.

ii) For afforestation/reforestation with selective harvesting, the time period over which the long-term average is calculated is the length of the crediting period.

In both cases, the period is no less than the crediting period.

(b) Determine the expected cumulative GHG benefit of the project for each year of the established time period. For each year, the cumulative GHG benefit is the difference between the project net removals and project reference level.

(c) Sum the cumulative GHG benefit of each year over the established time period.

(d) Calculate the average GHG benefit of the project over the established time period.

5. Use the following equation to calculate the long-term average GHG benefit, based procedures shown in (a) to (d) above:

$$LA = \frac{\sum_{t=1}^{n}(PEt - REt)}{n}$$

Where:

LA	The long-term average GHG benefit [tCO_2e]
PE_t	The cumulative to-date GHG emission reductions and removals generated during the project, including CO_2, CH_4, N_2O emissions reasonably attributable to the project activities, and displaced emissions [tCO_2e]
RE_t	The cumulative to-date project reference level [tCO_2e]
t	Year
n	Total number of years in the established time period

コメントの追加 [MURC36]: （補足説明）VCS の文章に倣って以下の内容で作成。

1. 以下に留意して、長期平均 GHG 便益が算定される期間を設定する：

(a) 同齢林管理を行う植林プロジェクトでは、長期GHG便益が計算される期間には、伐期の最後の伐採を含む少なくとも1回の伐期間を含まなければならない（例：クレジット期間が40年で伐期が12年の場合、長期平均GHG便益は48年の期間で設定）。

(b)択伐を行う植林プロジェクトの場合、長期平均が計算される期間は、クレジット期間の長さとする。

2.設定した期間中の、プロジェクトの年間 GHG 便益の合計量見込みを決定する。各年について、GHG 便益は、プロジェクトシナリオからベースラインシナリオを差し引いた、その時点までの GHG 排出削減・吸収量である。

3.各年の GHG 便益を、設定した期間を通じて合計する。

4.プロジェクトの平均 GHG 便益を、設定した期間について計算する。

5.長期平均 GHG 便益の算定には次の式を用いる：

LA＝長期平均 GHG 便益（tCO2e）

PEt = プロジェクトシナリオでの現在までの GHG 排出削減・吸収量の合計（tCO2e）。プロジェクトシナリオ排出削減・吸収量は CO2, CH4, N2O 排出量及びリーケージ排出量も考慮する。

BEt = ベースラインシナリオで予測される現在までの GHG 排出削減・吸収量の合計（tCO2e）

t = 年

n = 設定した期間の年数合計

~~Annex I.~~Annex II. National definition of forest for REDD-plus under the JCM of [Partner Country]~~Lao People's Democratic Republic~~

1. The forest definition of [Partner Country~~Lao People's Democratic Republic~~ is: [area>= 0.5 ha, crown density>= 20% of trees with DBH>=10cm (no threshold for height)[3]].

[3] Forest Cover Assessment report 2010, MAF; and confirmed through a minutes of meeting signed by DDG DOF (dated 24/10/2014).

~~Annex II.~~Annex III. Guidance on buffer approach to address reversals

1. A reversal for afforestation/reforestation projects occurs if the total number of credits previously issued from the project are higher than the cumulative project net removals, and the amount of the reversal is the difference of these two. A reversal for REDD-plus projects occurs if project annual net emission are higher than project reference level, and the amount of the reversal is the difference of these two.
2. When a reversal is occurred during the crediting period, credits are cancelled to compensate for the reversal and ensure the permanence of issued JCM credits. The amount of credits to be cancelled is equal to the lower of (a) or (b):
   (a)The amount of the reversal,
   (b) The total amount of credits previously issued.
3. To compensate for the reversal, the buffer credits, deposited from the project where the reversal has occurred, are cancelled at first. If the amount of buffer credits is insufficient, credits of (a) to (c) below may be cancelled. [In case that these credits cannot cover the entire amount of the reversal within one year or the certain time period, measures to be taken are determined by the Joint Committee, if necessary].
   (a) JCM c~~C~~redits issued by JCM projects (e.g., JCM credits previously issued from the project where the reversal has occurred, JCM credits issued from other JCM projects),
   (b)Buffer credits from other JCM projects for which the crediting period has ended (in this case, the project participants ultimately have to deposit the equivalent amount of the credits to the buffer account),
   (c)JCM Credits to be issued in the future, e.g. by continuing the JCM project where the reversal has occurred.
4. [The share of the compensation between project participants from Japan and PARTNER COUNTRY is specified based on the allocation of credits in a project design document.]
5. 【本パラは PCP に記載予定】In the case the credits to be issued are used for the compensation for the reversal referred to paragraph 3(c), the project participants submit a compensation plan to the ~~JCM~~ secretariat for ensuring the project implementation. The Joint Committee reviews the submitted documents.

コメントの追加 [MURC37]: （日本語）JCM 植林における反転とは、クレジット発行量が累計正味吸収量を上回ったこととし、反転量とは、その差分とする。

コメントの追加 [MURC38]: （補足説明）REDD+の場合の定義

コメントの追加 [MURC39]: （日本語）補填とは、当該プロジェクトにおいて、クレジット期間中に反転が生じた際、発行済みクレジットの永続性を担保するため、反転量又は発行済みクレジット量のうち少ないものと同量を、バッファクレジットの取消により相殺することとする。

コメントの追加 [MURC40]: （日本語）補填に際しては、まず、反転が生じたプロジェクトから既に預け入れられているバッファクレジットを用いる。これで不足する場合には、以下を用いて補填することとする。[これらによらない場合の対応は、必要に応じ JC で協議し決定することとする。]
(a) 他のクレジット（反転が生じたJCMプロジェクトからすでに発行されたJCMクレジット、他のJCMプロジェクトから発行されたJCMクレジット等）
(b) プロジェクト期間が終了した他のJCMプロジェクトのバッファクレジット（ただしこの場合は一時的な借り入れであり最終的にはプロジェクト実施者によるバッファ口座への同等量の返済が必要）
(c) 反転が生じた JCM プロジェクトを継続すること等により将来的に創出されるクレジット

コメントの追加 [MURC41]: （日本語）反転が起きた場合は、反転が起きたプロジェクトのプロジェクト実施者（PP）等の自己責任で補填を行うものと[し、負担割合はクレジット配分を踏まえるものと]する。

コメントの追加 [MURC42]: （日本語）将来のクレジットで補填する場合には、プロジェクト実施者は補填計画書を提出しプロジェクト実施を担保する。提出書類は JC が確認する。

6. Until the full amount of the credits referred to paragraph 2 has been cancelled, the project participants continue to observe the project, and cannot earn JCM credits from the project that reversal occurred unless otherwise approved by the Joint Committee. This observation is not intended to calculate the net removals but simply to check the continuation of the project. [Project participants may request the Joint Committee to issue JCM credits from the projects that the reversal occurred while the compensation for the reversal has not been completed.]
7. After a reversal occurred, the project participants may review the entire project, including the long-term average GHG benefit, project reference levels and buffer rates, and revise if necessary.
8. The buffer credits unused during the crediting period are kept in the buffer account in case of addressing the reversal occurred in the project area after the crediting period or in other projects.
9. The buffer rate is more than or equal to [10][15][20] %. Project participants set the rate based on the project's reversal risk.
10. 【Common Specifications of the JCM Registry にも記載】At least, one buffer account is established in the JCM registry for the Japanese side and buffer credits are managed in the account.

コメントの追加 [MURC43]: （日本語）補填が完了するまでは、引き続き PP がモニタリングを実施し、原則として補填が完了するまで PP 等がクレジットを獲得不可（反転に補填）とする。（注：ここでのモニタリングは、活動の継続を確認する簡易なものを想定（算定のための測定ではない）。）なお、PP がクレジットを獲得しつつ補填していくケースについては、発生した際に JC で対応を検討することとする。

コメントの追加 [MURC44]: （補足説明）REDD+の場合は may を削除し reviews。本規定は REDD+では義務、植林では任意のため。

コメントの追加 [MURC45]: （日本語）反転が生じた後のプロジェクトは、プロジェクト参照レベルやバッファ率などプロジェクト全体を見直す必要があり、要すればこれを修正する。（REDD+は義務、植林は任意）

コメントの追加 [MURC46]: （日本語）使用しなかったバッファクレジットは返却せず、監視期間中の反転や他 PJ の補填に使用するためバッファ口座に保管する。

コメントの追加 [MURC47]: （日本語）バッファ率は[10][15][20]%以上とし、プロジェクトの反転リスクを踏まえてプロジェクト実施者が設定する。

コメントの追加 [MURC48]: （日本語）少なくとも日本側登録簿にバッファ口座を 1 つ設置し、バッファクレジットを管理する。