



CCQI
Carbon Credit
Quality Initiative

Application of the CCQI methodology for assessing the quality of carbon credits

This document presents results from the application of version 3.0 of a methodology, developed by Oeko-Institut, World Wildlife Fund (WWF-US) and Environmental Defense Fund (EDF), for assessing the quality of carbon credits. The methodology is applied by Oeko-Institut with support by Carbon Limits, Greenhouse Gas Management Institute (GHGMI), INFRAS, Stockholm Environment Institute, and individual carbon market experts. This document evaluates one specific criterion or sub-criterion with respect to a specific carbon crediting program, project type, quantification methodology and/or host country, as specified in the below table. Please note that the CCQI website [Site terms and Privacy Policy](#) apply with respect to any use of the information provided in this document. Further information on the project and the methodology can be found here: www.carboncreditquality.org

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Sub-criterion:	3.2.1 Approaches for accounting and compensating for reversals (Approach 1)
Carbon crediting program:	Gold Standard
Project type:	Commercial afforestation Establishment of natural forest
Assessment based on carbon crediting program documents valid as of:	30 June 2021
Date of final assessment:	21 February 2024
Score:	2.38

Assessment

The methodology assesses the robustness of the carbon crediting program's approach to account and compensate for reversals. Carbon crediting programs employ the following three approaches for accounting and compensating for reversals:

- **Temporary carbon credits (Approach 1a):** credits that expire after a certain period and need to be replaced by other carbon market units, irrespective of whether a reversal occurred;
- **Monitoring and compensation for reversals (Approach 1b):** monitoring of any (potential) reversals and the compensation for the reversal through the cancellation of other carbon market units;
- **Discounting (Approach 1c):** discounting of emission reductions or using lower baselines that result in fewer emission reductions or removals that are credited in order to account for possible future reversals.

Usually, a carbon crediting program only pursues *one* of these three approaches for a given project type and geographical area. The assessment is thus applied to the relevant approach only and the scoring result for the relevant approach constitutes the score for sub-criterion 3.2.1. In situations where a program uses another approach than the above three approaches to account and compensate for reversals, the users of the methodology may use expert judgment to assess the robustness of the relevant approach. The Gold Standard applies Approach 1b.

Approach 1b

Relevant scoring methodology provisions

Monitoring and compensation for reversals is the predominant approach of carbon crediting programs to address non-permanence. The robustness of this approach depends on several design aspects. The methodology therefore considers several indicators to assess the application of this approach. All of these indicators are assessed at program level and, where the program's requirements differ between project types, quantification methodologies and/or geographical areas, also taking into account the specific provisions of the program related to the relevant project types, quantification methodologies and/or geographical areas.

Indicator 3.2.1.1

Relevant scoring methodology provisions

The methodology assesses the carbon crediting program provisions for the minimum time period for which the occurrence of any reversals must be monitored, reported and compensated for. The longer this period is, the higher is the likelihood that reversals occurring within the time horizon relevant for avoiding dangerous climate change are appropriately addressed. The following table specifies which score is assigned for which minimum duration:

Period for which monitoring, and reporting of reversals is required (from the start of the first crediting period)	Score
100 years or longer	4
>= 60 years	3
>= 30 years	2
Shorter	1

Information sources considered

- 1 Land use and forests activity requirements, Version 1.2.1 (April 2020), available at <https://globalgoals.goldstandard.org/203-ar-luf-activity-requirements/>
- 2 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf

Relevant carbon crediting program provisions

- Provision 1 Source 1, section 3.1.9: “A/R specific: The crediting period shall be a minimum of 30 years and maximum 50 years. The Project Developer shall select the crediting period based on the characteristics of the project”.
- Provision 2 Source 2, section 11.4.1: “The Project Developer must ensure that the project carbon stocks are aligned with the number of issued PERs and GSVERs over time. This section also defines the activities that shall be implemented if the project carbon stocks decline below the levels of issued PERs and GSVERs. For the Performance Certification the project owner shall provide documentation using the most recent version of the Carbon Performance template.
- a. At any time during a crediting period, the Project Developer shall ensure that
- the quantity of the PERs with respect to the project is equal or less than to the project’s expected carbon stocks
 - the quantity of GSVERs with respect to the project is equal or higher (not less) to the project’s expected carbon stocks”.

Assessment outcome

The approach is assigned a score of 2.

Justification of assessment

Provision 1 stipulates that the crediting period shall be between 30 and 50 years. Provisions 2 implies that monitoring and reporting of reversals is only required through the end of a project’s crediting period. This was confirmed by the Gold Standard in personal communication.

Indicator 3.2.1.2

Relevant scoring methodology provisions

The methodology assesses the approaches employed by carbon crediting programs to address the risk of potential reversals in case of discontinuation of monitoring. If monitoring of reversals discontinues prior to the required time horizon, the occurrence of a reversal cannot be excluded. In some instances, activity owners might even cease monitoring because of a reversal. The approaches employed by carbon crediting programs to address the risk of potential reversals in case of discontinuation of monitoring are scored as follows:

Program requirements	Score
All carbon credits previously issued to the project must be compensated for within 1 year after the monitoring or verification report was due	4
All carbon credits previously issued to the project must be compensated for, with a grace period longer than 1 year after the monitoring or verification report was due	3
Only a fraction of carbon credits (e.g., those set aside in a pooled buffer reserve) must be used to compensate for a possible reversal	2
No action is required, or no time limit is indicated for compensation	1

Information sources considered

- 1 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf
- 2 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf
- 3 Principles & Requirements Version 1.2 (October 2019), available at <https://globalgoals.goldstandard.org/101-par-principles-requirements/>
- 4 Personal communication, February 2022

Relevant carbon crediting program provisions

- Provision 1 Source 2, section 11.4.1: “The Project Developer must ensure that the project carbon stocks are aligned with the number of issued PERs and GSVERs over time. This section also defines the activities that shall be implemented if the project carbon stocks decline below the levels of issued PERs and GSVERs. **For the Performance Certification the project owner shall provide documentation using the most recent version of the Carbon Performance template.**
- a. At any time during a crediting period, the Project Developer shall ensure that
 - the quantity of the PERs with respect to the project is equal or less than to the project’s expected carbon stocks
 - the quantity of GSVERs with respect to the project is equal or higher (not less) to the project’s expected carbon stocks”.

- Provision 2 Source 2, section 11.4.2: “During the period where the project owner is not in compliance with requirement 11.4.1 a, above, an equal number of PERs (*Planned Emission Reductions*) or GSVERs (*Gold Standard Verified Emission Reductions*) from the Gold Standard Compliance Buffer will be put ‘on-hold’. Further PERs or GSVERs shall only be issued for the project after the project owner has complied with requirement 11.4.1 a, above. If after 5 years, the project developer cannot demonstrate that compliance with requirement 11.4.1 a, above will occur, the project owner shall follow the **Non-Conformity process** as per Principles & Requirements”.
- Provision 3 Source 3, section 7.1.1: “The Project Developer **shall report any potential or actual Non-Conformity** against the Requirements and any associated Guidelines, Tools or Methodologies immediately upon discovery (and no later than 30 days after the Non-Conformity event discovery). Potential or actual non-conformities may also be submitted to Gold Standard by any party at any time for review”.
- Provision 4 Source 3, section 7.1.3: “Gold Standard shall decide upon the action taken in response to a confirmed Non-Conformity. This may include a requirement for immediate rectification or change, a suspension of a Project until rectification has been Verified or a removal of Gold Standard Certified Design status from the Project”.
- Provision 5 Source 1, section 3.4: “Scenario 3: De-certification / De-Registration. This scenario represents the reversal/performance shortfall resulting from **discontinuation of the project, for example due to de-certification or de-registration resulting from non-conformity**, bankruptcy or project withdrawal. To compensate the loss caused by the de-certification of the project, the following order shall be followed:
- The project’s registry account gets frozen
 - All Active PERs (Planned Emission Reductions) and VERs (Verified Emission Reductions) get locked
 - **The Project Developer shall compensate all transferred/assigned PERs and VERs** using an equivalent number of GS VERs purchased from other Gold Standard projects”).
- Provision 6 Source 3, principle 4: “Projects shall [...] undertake monitoring in accordance with the Monitoring and Reporting Plan and produce Annual Reports and Monitoring Reports.”
- Provision 7 Source 3, section 4.1.44: “For each monitored parameter from a) to d) above the following information shall be provided in the Monitoring Plan: [...] Frequency of monitoring and reporting against each parameter”.
- Provision 8 Source 3, section 4.1.45: “The Project Monitoring & Reporting Plan shall be presented as part of the Project Documentation for Validation and shall form the basis of ongoing Monitoring Reports that shall be presented for Verification”.
- Provision 9 Source 3, section 5.1.29: “Verification must occur at least once during the five-year Certification cycle with the first Verification completed within two years of project Implementation Date or Design Certification, whichever is later“.
- Provision 10 Source 3, section 5.1.40: “Failure to provide Annual Reports as required shall result in the de-certification of the Project“.

Provision 11 Source 3, section 5.1.44: “Annual Reporting does not represent Certification nor any decision-making or agreement to any design change by Gold Standard. Annual Reporting is intended as an opportunity to share progress and track key updates and confirms to Gold Standard that the Project remains active. With formal review of conformity to Requirements; any changes in approach shall be undertaken at Performance Certification only”.

Assessment outcome

The approach is assigned a score of 4.

Justification of assessment

Projects must monitor their CO₂ performance for the entire crediting period and ensure carbon stocks are maintained as expected (Provision 1).

Monitoring reports must be submitted at each verification audit (Provision 6, 7 and 8). Verification must take place at least once every five years (Provision 9). Failing to submit a monitoring or verification report constitutes a non-conformity (Provision 2) which may result in the de-certification of the project (Provision 5). In addition, projects must submit annual reports for each monitoring year by the end of the next calendar year for which verification is not completed (5.1.39 through 5.1.44 on Annual Reporting, Source 3). Failure to provide Annual Reports as required shall also result in the de-certification of the project (Provision 10).

In the case of a de-certification, all issued credits need to be compensated for (Provision 5). Potential or actual non-conformities may be submitted to Gold Standard by any party at any time for review (Provision 3). No “grace period” could be identified if a monitoring deadline is not met.

Indicator 3.2.1.3

Relevant scoring methodology provisions

The methodology assesses whether and how carbon crediting programs address any reversals that might occur after the end of the required time horizon for monitoring reversals. The following table specifies the scoring approach for the carbon crediting programs provisions to address potential reversals after the end of regular monitoring:

Program requirements	Score
The project's credits held in a buffer reserve are retired	4
The project's credits held in a buffer reserve stay in the reserve without retiring them	3
No action required (all credits are issued to the project owners)	1

Information sources considered

- 1 Personal communication, June 2020.
- 2 Gold Standard’s CORSIA application, available at <https://www.icao.int/environmental-protection/CORSIA/Pages/TAB2019.aspx>

Relevant carbon crediting program provisions

Provision 1 Source 2, section 4.5: “The buffer may be substituted by other credits (for example energy) but buffer credits are never returned to the project (i.e. the buffer is permanently held post-project certification and even after the end of the project’s crediting period)”.

Assessment outcome

The approach is assigned a score of 3.

Justification of assessment

In the Gold Standard’s program documents, no information is available on the use of credits held in the compliance buffer after the end of the crediting period of a project. In personal email communication with Gold Standard, it could be clarified that credits remain in the reserve after the end of the crediting period of a project. This is also stated in Gold Standard’s application for CORSIA (Provision 1).

Indicator 3.2.1.4

Relevant scoring methodology provisions

Non-permanence is only truly ensured if all types of reversals are compensated for. The methodology therefore assesses whether carbon crediting programs require compensation of all or only some types of reversals.

Some carbon crediting programs distinguish two types of reversals:

1. **Unintentional (or unavoidable) reversals** happen if stored carbon is lost due natural disturbances such as storms, wildfire or disease that is not the result of human willful intent or negligence.
2. **Intentional (or avoidable) reversals** denote reversals that are caused by a landowner’s or project proponent’s willful intent, including harvesting, land conversion or negligence, e.g. through poor management.

Carbon crediting programs that require all types of reversals being compensated for receive a score of 4. Some programs only require that unintentional reversals be compensated for. This approach only partially addresses reversal risks and therefore receives a score of 1.

Program requirements	Score
All types of reversals must be compensated for	4
Only unintentional reversals (e.g. due to natural disturbances) must be compensated for	1

Information sources considered

- 1 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf

Relevant carbon crediting program provisions

Provision 1 Source 1, sections 3.1 and 3.2: “Performance shortfall scenarios:

Scenario 1: Force majeure. It represents a reversal and/or performance shortfall situation caused by the force majeure. In this scenario, depending on the level of the loss and/or under performance happened in the project boundary, the VERs may have reversed partially or completely and/or not all issued PERs converted in VERs for a given monitoring period.

Scenario 2: Non-Force majeure. This scenario represents a reversal event and/or performance shortfall caused by non-force majeure. In this scenario, underperformance of a project results from other factors, for example, but not limited to, poor project management and overestimation of the ex-ante CO₂-fixation model. In this scenario, there is a reversal of GS VERs and/or an underperformance that prevents a project from converting all issued PERs into VERs for a given monitoring period”.

Provision 2 Source 1, section 3.3: “The steps to be taken to address **reversal and performance shortfall scenarios** are:

Step 1: Notification to Gold Standard [...]. Upon receiving the notification, Gold Standard will freeze the project Registry account and no activity including issuing/transferring/assigning/retiring of PERs and/or GSVERs from the project registry account will be allowed until a decision or resolution is reached by GS Secretariat.

[...]

Step 2: Preparation of assessment report and follow-up actions

The Project Developer shall prepare and submit an assessment report within three months of initial notification date. [...] The report shall provide information on the incident including but not limited to its causes, supporting evidence, written or otherwise, to assess and determine the nature of event, the magnitude of the loss of carbon stocks and a mitigation measure, where possible, to avoid occurrences of similar incidents in future. In the case of a performance shortfall, the assessment report shall clearly explain the causes of shortfall.

[...]

Step 3: Compensation/Retirement of lost emission reduction units [...]

To compensate transferred/assigned lost VERs and performance shortfall PERs, the following preferential order shall be followed:

- Compensate using an equivalent number of GS VERs that were not affected from the reversal event and are available in project’s registry account (**Scenarios 1 and 2**)
- Compensate using an equivalent number of GS VERs purchased from other Gold Standard project (**Scenarios 1 and 2**)

- Compensate using an equivalent number of GS VERs available in the compliance buffer pool (**Scenario 1**)”.

Assessment outcome

The approach is assigned a score of 4.

Justification of assessment

The above documentation shows that all types of reversals comprising unintentional reversals (“scenario 1”) as well as intentional reversals (“scenario 2”) need to be compensated for.

Indicator 3.2.1.5

Relevant scoring methodology provisions

The methodology assesses the robustness of the approach used by the carbon crediting program for compensating for reversals. The overall effectiveness may depend on how different measures are implemented or combined. This may depend on several factors, including which entities are responsible for compensating, in what sequence they assume responsibility, and what assurances are provided that the responsible entities have incentives and will be able to fully compensate for the reversals (see methodology for more details). The methodology uses a point system which identifies the following key sub-indicators for the overall robustness.

Sub-indicator 3.2.1.5.1

Relevant scoring methodology provisions

“The project owners are the primary responsible entity for compensating for intentional reversals or for *all* reversals (e.g. they are required to top up units temporarily drawn from a pooled buffer reverse).”

Information sources considered

- 1 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf

Relevant carbon crediting program provisions

Provision 1 Source 1, section 3.3.14: “Step 3: Compensation/Retirement of lost emission reduction units [...]

To compensate transferred/assigned lost VERs and performance shortfall PERs, the following preferential order shall be followed:

Compensate using an equivalent number of GS VERs that were not affected from the reversal event and are available in project’s registry account (**Scenarios 1 and 2**)

Compensate using an equivalent number of GS VERs purchased from other Gold Standard project (**Scenarios 1 and 2**)

Compensate using an equivalent number of GS VERs available in the compliance buffer pool (**Scenario 1**)”.

Provision 2 Source 1, section 3.4: “This scenario represents the reversal/performance shortfall resulting from discontinuation of the project, for example due to de-certification or de-registration resulting from non-conformity, bankruptcy or project withdrawal.

3.4.2 To compensate the loss caused by the de-certification of the project, the following order shall be followed:

- The project’s registry account gets frozen
- All Active PERs and VERs get locked
- The Project Developer shall compensate all transferred/assigned PERs and VERs using an equivalent number of GS VERs purchased from other Gold Standard project”.

Assessment outcome

Yes (4 Points).

Justification of assessment

The above documentation specifies that project owners are the primary entity for compensating for intentional reversals.

Sub-indicator 3.2.1.5.2

Relevant scoring methodology provisions

To facilitate compensation by project owners, the program has the following provisions in place:

- a. The project owners are required to sign legal agreements obligating them to monitor, report and compensate for reversals.

OR

- b. Following a reversal, the program ceases the issuance of carbon credits to the project until the project owners have fully compensated for the reversals.

OR

- c. Both of these provisions are implemented.

Information sources considered

- 1 Terms and Conditions (April 2019), available at https://globalgoals.goldstandard.org/standards/T-PreReview_V1.1-Terms_and_Conditions.pdf

- 2 Principles & Requirements Version 1.2 (October 2019), available at <https://globalgoals.goldstandard.org/101-par-principles-requirements/>
- 3 Website: Process to be certified Gold Standard, available at <https://www.goldstandard.org/take-action/certify-project>
- 4 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf

Relevant carbon crediting program provisions

- Provision 1 Source 3: “Projects must submit signed Gold Standard Terms & Conditions”.
- Provision 2 Source 1, section 2: “The following documents (together, the “Rules”) are hereby incorporated by reference into these Terms and Conditions, as each may be updated from time to time in our sole discretion: 1. [Gold Standard for the Global Goals Requirements](#)”.
- Provision 3 Source 2, section 2.1.1: “The project design and planning [...] has developed a compliant Monitoring Plan”.
- Provision 4 Source 2, principle 4: “Undertake monitoring in accordance with the Monitoring & Reporting Plan and produce Annual Reports and Monitoring Reports”.
- Provision 5 Source 2, section 4.1.45: “The Project Monitoring & Reporting Plan shall be presented as part of the Project Documentation for Validation and shall form the basis of ongoing Monitoring Reports that shall be presented for Verification”.
- Provision 6 Source 4, section 3.3.14: “Step 3: Compensation/Retirement of lost emission reduction units [...]”
- To compensate transferred/assigned lost VERs and performance shortfall PERs, the following preferential order shall be followed:
- Compensate using an equivalent number of GS VERs that were not affected from the reversal event and are available in project’s registry account (**Scenarios 1 and 2**)
- Compensate using an equivalent number of GS VERs purchased from other Gold Standard project (**Scenarios 1 and 2**)
- Compensate using an equivalent number of GS VERs available in the compliance buffer pool (**Scenario 1**)”.
- Provision 7 Source 4, section 3.4: “This scenario represents the reversal/performance shortfall resulting from discontinuation of the project, for example due to de-certification or de-registration resulting from non-conformity, bankruptcy or project withdrawal.
- 3.4.2 To compensate the loss caused by the de-certification of the project, the following order shall be followed:
- The project’s registry account gets frozen
 - All Active PERs and VERs get locked

- The Project Developer shall compensate all transferred/assigned PERs and VERs using an equivalent number of GS VERs purchased from other Gold Standard project.”.

Provision 8 Source 4, section 3.3.1: “In the case of a reversal event or performance shortfall, the Project Developer shall notify SustainCert no more than 30 calendar days after the discovery of the reversal event [...] Upon receiving the notification, Gold Standard will freeze the project Registry account and no activity including issuing/transferring/assigning/retiring of PERs and/or GSVERs from the project registry account will be allowed until a decision or resolution is reached by GS Secretariat”.

Assessment outcome

Both of the above provisions are implemented (5 points).

Justification of assessment

Project owners are required to sign Gold Standard Terms and Conditions (provision 1). By signing this document, project owners also become obliged to fulfil the requirements included in Gold Standard’s methodological documents available at this page <https://www.goldstandard.org/project-developers/standard-documents> (provision 2). This includes Gold Standard’s Principles and Requirements (Source 2) and the Performance Shortfall Guidelines (Source 4) according to which monitoring and reporting (provisions 3, 4, 5) as well as compensation (provisions 6 and 7) is obligatory. Provision 8 shows that the program ceases the issuance of carbon credits to the project until the project owners have fully compensated for the reversals. Both provisions are therefore implemented.

Sub-indicator 3.2.1.5.3

Relevant scoring methodology provisions

The carbon crediting program ensures that full compensation for any monitored reversals takes place in the case that the project owners do not fulfil their obligation for compensating for reversals (e.g., due to bankruptcy or non-enforceable legal agreements), by establishing provisions that in such instances compensation takes place through other means, such as the pooled buffer reserve.

Information sources considered

- 1 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf
- 2 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf
- 3 Principles & Requirements Version 1.2 (October 2019), available at <https://globalgoals.goldstandard.org/101-par-principles-requirements/>

Relevant carbon crediting program provisions

Provision 1 Source 1, section 3.3.14: “Step 3: Compensation/Retirement of lost emission reduction units [...]

To compensate transferred/assigned lost VERs and performance shortfall PERs, the following preferential order shall be followed:

Compensate using an equivalent number of GS VERs that were not affected from the reversal event and are available in project’s registry account (Scenarios 1 and 2) [*i.e. unintentional and intentional reversals*]

Compensate using an equivalent number of GS VERs purchased from other Gold Standard project (Scenarios 1 and 2)

Compensate using an equivalent number of GS VERs available in the compliance buffer pool (Scenario 1)”.

Provision 2 Source 2, section 11.4.2: “During the period where the project owner is not in compliance with requirement 11.4.1 a, above [*ensuring that the project carbon stocks are aligned with the number of issued PERs and GSVERs over time*], **an equal number of PERs (*Planned Emission Reductions*) or GSVERs (*Gold Standard Verified Emission Reductions*) from the Gold Standard Compliance Buffer will be put ‘on-hold’**. Further PERs or GSVERs shall only be issued for the project after the project owner has complied with requirement 11.4.1 a, above. If after 5 years, the project developer cannot demonstrate that compliance with requirement 11.4.1 a, above will occur, the project owner shall follow the Non-Conformity process as per Principles & Requirements”.

Provision 3 Source 3, section 7.1.3: “Gold Standard shall decide upon the action taken in response to a confirmed Non-Conformity. This may include; a requirement for immediate rectification or change, a suspension of a Project until rectification has been Verified or a removal of Gold Standard Certified Design status from the Project”.

Provision 4 Source 1, section 3.4: “Scenario 3: De-certification / De-Registration. This scenario represents the reversal/performance shortfall resulting from discontinuation of the project, for example due to de-certification or de-registration resulting from non-conformity, bankruptcy or project withdrawal. To compensate the loss caused by the de-certification of the project, the following order shall be followed:

The project’s registry account gets frozen

All Active PERs (*Planned Emission Reductions*) and VERs (*Verified Emission Reductions*) get locked

The Project Developer shall compensate all transferred/assigned PERs and VERs using an equivalent number of GS VERs purchased from other Gold Standard projects”.

Assessment outcome

No (0 points).

Justification of assessment

The above documentation shows that in case of a reversal, the project owners are responsible to compensate for this reversal by using an equivalent number of credits from the affected project, or credits purchased from another project. If this is not possible and if the reversals originate from force majeure (referred to as 'Scenario 1'), compensation will be done through the buffer pool (provision 1).

Additionally, in case the project owner cannot demonstrate that project carbon stocks are aligned with the number of issued credits over time, i.e. a reversal has taken place, an equal number of credits to the reversal included in the buffer pool will be put on hold (provision 2). If, after 5 years, the project developer cannot demonstrate that project carbon stocks are aligned with the number of issued credits over time, i.e. is unable to compensate for a reversal, the "non-conformity process" is applied (provision 2). In this case, Gold Standard will decide upon the action taken in response to a confirmed case of non-conformity, including requiring immediate rectification, a suspension of the project until rectification is verified or removing the project from Gold Standard's certification (provision 3). To compensate the loss in case of discontinuation of the project, e.g. in case of non-conformity or bankruptcy, Gold Standard freezes the project's registry account, locks all active credits and ultimately, the project developer needs to compensate all transferred/assigned credits by purchasing credits from other Gold Standard projects (provision 4). No provisions could be identified that address the situation where the project owners are not fulfilling this obligation. It is thus unclear whether the carbon credits that have been put 'on hold' in the buffer pool (provision 2) would be cancelled, released or remain on hold.

In summary, as the buffer is only meant to compensate for reversals due to force majeure (referred to as Scenario 1) and as Gold Standard's has no explicit provisions for other type of reversals (referred to as Scenario 2) to ensure full compensation if project owners do not fulfil their obligations to compensate for reversals, the indicator is deemed not to be fulfilled.

Sub-indicator 3.2.1.5.4

Relevant scoring methodology provisions

"The program uses a pooled buffer reserve to compensate for reversals."

Information sources considered

- 1 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf

Relevant carbon crediting program provisions

- Provision 1 Source 1, section 7.1.2: "For projects applying the LUF Requirements, 20% of the issued PERs and GSVERs shall be transferred into the Gold Standard Buffer. The transfer is distributed pro rata according to the vintage years. Upon written notice to the Gold Standard at or prior to issuance, the Project Developer may transfer issued GSVERs from other Gold Standard certified Projects to the Gold Standard Conformity Buffer in lieu of the carbon credits from the Project".

Assessment outcome

Yes (6 Points).

Justification of assessment

The above documentation specifies that the indicator is fulfilled.

Sub-indicator 3.2.1.5.5

Relevant scoring methodology provisions

The average fraction of carbon credits required to be placed into the pooled buffer reserve is X percentage points at the time of assessment. The assessment should include all projects from which carbon credits are held in the buffer reserve.

Information sources considered

- 1 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf
- 2 Gold Standard's CORSIA application, available at <https://www.icao.int/environmental-protection/CORSIA/Pages/TAB2019.aspx>

Relevant carbon crediting program provisions

Provision 1 Source 1, section 7.1.2: "For projects applying the LUF Requirements, 20% of the issued PERs and GSVERs shall be transferred into the Gold Standard Buffer. The transfer is distributed pro rata according to the vintage years. Upon written notice to the Gold Standard at or prior to issuance, the Project Developer may transfer issued GSVERs from other Gold Standard certified Projects to the Gold Standard Conformity Buffer in lieu of the carbon credits from the Project".

Provision 2 Source 2: "The 20% buffer withholding is based on previous experience and on the fact that each project conducts a risk assessment and implement mitigation measures. Therefore, it is considered unlikely that a project would suffer a reversal larger than 20% of its issued ex-post units. 20% is more conservative than other peer standards and has also been extensively reviewed with our independent Technical Advisory Committee.

However, the Secretariat did conduct a buffer stress test on October 2017 to check the adequacy of the 20% buffer withholding. Three scenarios were assessed involving failure of the three largest LUF projects. The results showed that, at the time, the total number of ex-post units in the buffer was able to cover 32%, 39%, and 54% of a total reversal of all issued VERs credited to the three, two, and the largest LUF project, respectively. Note that not all issued VERs are assigned and hence the total ratio of those that would require backing up (i.e. issued and assigned) is much lower.

The results formed the basis to inform a decision by the LUF Technical Advisory Committee (TAC) on the adequacy of the 20% buffer withholding; it was agreed that the current withholding was acceptable based on the above findings and the VERs sold to date from the projects. It is again worth noting, that the buffer percentage is more conservative than typically applied by other, similar standards”.

Assessment outcome

4 Points.

Justification of assessment

The number of points is calculated by dividing the percentage points (20%) that the carbon crediting program requires to be placed in the pooled buffer reserve by 5.

Sub-indicator 3.2.1.5.6

Relevant scoring methodology provisions

“The fraction of carbon credits set aside in the pooled buffer reserve is determined through a project-specific risk assessment, following a pre-defined methodology.”

Information sources considered

- 1 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf

Relevant carbon crediting program provisions

Provision 1 Source 1, section 7.1.2: “For projects applying the LUF Requirements, 20% of the issued PERs and GSVERs shall be transferred into the Gold Standard Buffer. The transfer is distributed pro rata according to the vintage years. Upon written notice to the Gold Standard at or prior to issuance, the Project Developer may transfer issued GSVERs from other Gold Standard certified Projects to the Gold Standard Conformity Buffer in lieu of the carbon credits from the Project”.

Assessment outcome

No (0 points).

Justification of assessment

The fraction of credits set aside in the pooled buffer reserve is not determined through a project-specific risk assessment. Instead, 20% of the issued PERs and GSVERs are transferred into the Gold Standard Buffer for each project.

Sub-indicator 3.2.1.5.7

Relevant scoring methodology provisions

“X registered projects contribute to the pooled buffer reserve. The assessment should include all projects from which carbon credits are held in the buffer reserve at the time of assessment.”

Information sources considered

- 1 Personal communication, November 2021

Relevant carbon crediting program provisions

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Assessment outcome

0.7 points (35 projects divided by 50, with a maximum of 2 points).

Justification of assessment

According to the information on the GS buffer reserve provided by the program (source 1), as of November 2021, 35 projects contribute to the pooled buffer reserve (only including projects that contribute VERs, excluding PERs).

Sub-indicator 3.2.1.5.8

Relevant scoring methodology provisions

The registered projects contributing to the pooled buffer reserve are implemented in X different regions. A region is a state or province within a country (e.g., states within the US, provinces within Brazil). The assessment should include all projects from which carbon credits are held in the buffer reserve at the time of assessment.

Information sources considered

- 1 Personal communication, November 2021

Relevant carbon crediting program provisions

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Assessment outcome

1.28 points (32 regions divided by 25, with a maximum of 2 points)

Justification of assessment

The information on the buffer reserve provided by Gold Standard (source 1) shows that the number of regions is 32 as of November 2021 (only including projects that contribute VERs to the buffer reserve).

Sub-indicator 3.2.1.5.9

The three largest projects contributing to the pooled buffer reserve represent X percentage points of the carbon credits held in the pooled buffer reserve.

Information sources considered

- 1 Personal communication, November 2021

Relevant carbon crediting program provisions

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Assessment outcome

-6.82 points.

The number of percentage points (68) divided by 10. The score of this sub-indicator is negative and must be subtracted from the other scores when determining the final score for indicator 3.2.1.5

Justification of assessment

According to the information on the buffer reserve provided by GS (source 1), the three largest projects contributing to the pooled buffer represent 68 percentage points of the total number of carbon credits held in the buffer reserve as of November 2021 (only taking into account VERs and not PERs).

Sub-indicator 3.2.1.5.10

Relevant scoring methodology provisions

“There are provisions in place to ensure the continued operation of the reserve if the carbon crediting program ceases to exist, including in the case of bankruptcy.”

Information sources considered

- 1 Gold Standard Policy – Dissolution of Standards. Policy and procedure for issued certificates in the event of dissolution of the Gold Standard Foundation (not publicly available)

Relevant carbon crediting program provisions

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Assessment outcome

Yes (4 points).

Justification of assessment

The document provided by Gold Standard shows that the indicator is fulfilled.

Sub-indicator 3.2.1.5.11**Relevant scoring methodology provisions**

The program funds part of its pooled buffer reserve with carbon credits from projects that do not have a material non-permanence risk, as defined in Table 27, and the fraction of these carbon credits makes up:

a. 50% or less of the pooled buffer reserve;

OR

b. More than 50% of the pooled buffer reserve.

Information sources considered

- 1 Personal communication, November 2021
- 2 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf

Relevant carbon crediting program provisions

Provision 1 Source 2, section 7.1.2: “For projects applying the LUF Requirements, 20% of the issued PERs and GSVERs shall be transferred into the Gold Standard Buffer. The transfer is distributed pro rata according to the vintage years. Upon written notice to the Gold Standard at or prior to issuance, the Project Developer may transfer issued GSVERs from other Gold Standard certified Projects to the Gold Standard Conformity Buffer in lieu of the carbon credits from the Project”.

Assessment outcome

4 points (More than 50% of the pooled buffer reserve).

Justification of assessment

According to the information on the buffer reserve provided by GS (source 1), projects that do not have a material non-permanence risk represent 71% of the total number of carbon credits held in the buffer reserve as of November 2021 (only taking into account VERs and not PERs). Only land use/forestry projects need to contribute 20% of issued credits into the buffer (and other project types

do not contribute to the buffer) but credits from other project types can be used to fulfil this obligation to contribute 20%.

Sub-indicator 3.2.1.5.12

Relevant scoring methodology provisions

“The program uses a non-pooled buffer reserve to compensate for reversals.”

Information sources considered

- 1 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf
- 2 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf

Relevant carbon crediting program provisions

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Assessment outcome

No (0 points).

Justification of assessment

The program does not use a non-pooled buffer reserve.

Sub-indicator 3.2.1.5.13

Relevant scoring methodology provisions

“The fraction of issued carbon credits that must be placed into the non-pooled buffer reserve is X percentage points.”

Information sources considered

- 1 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf
- 2 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf

Relevant carbon crediting program provisions

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Assessment outcome

No (0 points).

Justification of assessment

The program does not use a non-pooled buffer reserve.

Sub-indicator 3.2.1.5.14**Relevant scoring methodology provisions**

“There are provisions in place to ensure the continued operation of the non-pooled buffer reserve if the carbon crediting program ceases to exist, including in the case of bankruptcy.”

Information sources considered

- 1 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf
- 2 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf

Relevant carbon crediting program provisions

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Assessment outcome

No (0 points).

Justification of assessment

The program does not use a non-pooled buffer reserve.

Sub-indicator 3.2.1.5.15**Relevant scoring methodology provisions**

“In addition to requirements for compensation by project owners and the use of a pooled buffer reserve, the program requires project owners to insure the risks associated with their obligation to compensate for reversals.”

Information sources considered

- 1 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf
- 2 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf

Relevant carbon crediting program provisions

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Assessment outcome

No (0 points).

Justification of assessment

The program does not require project owners to insure the risks associated with their obligation to compensate for reversals.

Sub-indicator 3.2.1.5.16

Relevant scoring methodology provisions

“The program establishes clear conditions for what type of insurance is considered sufficient, including provisions that only high-quality credits may be used for compensation.”

Information sources considered

- 1 GHG emissions reduction & Sequestration product requirements, version 2.0 (April 2021), available at https://globalgoals.goldstandard.org/standards/501_V2.0_PR_GHG-Emissions-Reductions-Sequestration.pdf
- 2 Performance Shortfall Guidelines Version 1.1 (April 2020), available at https://globalgoals.goldstandard.org/standards/501G_V1.1_PR_Performance-Shortfall-Guidelines.pdf

Relevant carbon crediting program provisions

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Assessment outcome

No (0 points).

Justification of assessment

The program does not require project owners to insure the risks associated with their obligation to compensate for reversals.

Scoring results for indicator 3.2.1.5

According to the above assessment, the carbon crediting program receives 22.18 points. Applying the scoring approach in the methodology, this results in a score of 2.41 for the indicator.

Indicator 3.2.1.6

Relevant scoring methodology provisions

Some carbon crediting programs allow or require that a new baseline be established in the event of a reversal. However, if the baseline is adjusted upwards, by adding the reversals to the baseline, then the reversal would no longer be accounted for, i.e. the cumulative emission reductions that may be claimed could be equal to the situation when the reversal had never occurred. Such provisions could thus undermine the effectiveness of fully accounting for reversals. The methodology assesses carbon crediting programs depending on the extent to which they allow or require adjusting baseline emission upwards in the case of reversals. The program requirements in the case of reversals are scored as follows:

Program provisions in the case of reversals	Score
The program provisions do not allow or require adjusting the baseline upwards (i.e. towards higher emissions in the case of reversals)	4
The program provisions allow or require adjusting the baseline upwards (i.e. towards higher emissions in the case of reversals), but only to a much smaller extent than the actual reversals	3
The program provisions potentially allow or require adjusting the baseline upwards (i.e. towards higher emissions in the case of reversals) to the same extent as the reversals that occurred	1

Information sources considered

- 1 Land use and forests activity requirements, Version 1.2.1 (April 2020), available at <https://globalgoals.goldstandard.org/203-ar-luf-activity-requirements/>.

Relevant carbon crediting program provisions

Provision 1 Source 1, section 3.1.12(c): “According to the Principles & Requirements, all projects shall seek Crediting Period Renewal every 5th year. At the time of project renewal, The A/R and AGR projects shall update the baseline following the applied Impact Quantification Methodology requirements”.

Assessment outcome

The approach is assigned a score of 4.

Justification of assessment

The above documentation specifies that the carbon crediting program allows for a regular update of baselines of forestry projects (but not the baseline scenario which is fixed for the entire project duration). However, no baseline update is allowed in case of a reversal.

Scoring results

According to the above assessment, the carbon crediting program achieves a score of 2 for indicator 3.2.1.1, a score of 4 for indicator 3.2.1.2, a score of 3 for indicator 3.2.1.3, a score of 4 for indicator 3.2.1.4, a score of 2.41 for indicator 3.2.1.5, and a score of 4 for indicator 3.2.1.6. Applying the scoring approach of the methodology, this results in a combined score of 2.38 for sub-criterion 3.2.1.

Annex: Summary of changes from previous assessment sheet versions

The following table describes the main changes implemented in comparison to the assessment from 20 May 2022.

Topic	Rationale
Project type	Provisions were found to be applicable for the project type commercial afforestation.