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

Contact
carboncreditqualityinitiative@gmail.com

<table>
<thead>
<tr>
<th>Sub-criterion:</th>
<th>3.2.1 Approaches for accounting and compensating for reversals (Approach 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon crediting program:</td>
<td>CAR</td>
</tr>
</tbody>
</table>
| Project type: | Commercial afforestation  
Establishment of natural forest  
Improved forest management |
| Assessment based on carbon crediting program documents valid as of: | 15 May 2022 |
| Date of final assessment: | 21 February 2024 |
| Score: | 3.02 |
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. ACR 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:
Application of the CCQI methodology

<table>
<thead>
<tr>
<th>Period for which monitoring, and reporting of reversals is required (from the start of the first crediting period)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 years or longer</td>
<td>4</td>
</tr>
<tr>
<td>&gt;= 60 years</td>
<td>3</td>
</tr>
<tr>
<td>&gt;= 30 years</td>
<td>2</td>
</tr>
<tr>
<td>Shorter</td>
<td>1</td>
</tr>
</tbody>
</table>

**Information sources considered**


2. Forest Project Protocol, version 4.0, June 2017, available at [https://www.climateactionreserve.org/how/protocols/forest/](https://www.climateactionreserve.org/how/protocols/forest/)

**Relevant carbon crediting program provisions**

Provision 1  
Source 1, section 2.8: “The Reserve defines “permanence” as being equivalent to the radiative forcing benefits of removing CO2 from the atmosphere for 100 years”.

Provision 2  
Source 2, section 3.5: “Project Operators must monitor and verify a Forest Project for a period of 100 years following the issuance of any CRT for GHG reductions or removals achieved by the project. For example, if CRTs are issued to a Forest Project in year 99 following its start date, monitoring and verification activities must be maintained until year 199”.

**Assessment outcome**

The approach is assigned a score of 4.

**Justification of assessment**

The above documentation shows that the program requires monitoring and reporting of reversals for a period of at least 100 years.

**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:
Application of the CCQI methodology

Program requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>All carbon credits previously issued to the project must be compensated for within 1 year after the monitoring or verification report was due</td>
<td>4</td>
</tr>
<tr>
<td>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</td>
<td>3</td>
</tr>
<tr>
<td>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</td>
<td>2</td>
</tr>
<tr>
<td>No action is required, or no time limit is indicated for compensation</td>
<td>1</td>
</tr>
</tbody>
</table>

Information sources considered

1. Forest Project Protocol, version 4.0, June 2017, available at [https://www.climateactionreserve.org/how/protocols/forest/](https://www.climateactionreserve.org/how/protocols/forest/)


Relevant carbon crediting program provisions

Provision 1 Source 1, section 3.5 (3): “A Forest Project may be automatically terminated if there is a breach of certain terms described within the Project Implementation Agreement. Such a termination will require the Project Operator to retire a quantity of CRTs, as specified under ‘Retiring CRTs Following Project Termination’ below.”

Provision 2 Source 1, section 3.5 (3): “Retiring CRTs Following Project Termination

1. For a Reforestation or Avoided Conversion Project, the Project Operator must retire a quantity of CRTs from its Reserve account equal to the total number of CRTs issued to the project over the preceding 100 years. […]

2. For an Improved Forest Management Project, the Project Operator must retire a quantity of CRTs from its Reserve account equal to the total number of CRTs issued to the project over the preceding 100 years, multiplied by the appropriate compensation rate indicated in Table 3.1.

<table>
<thead>
<tr>
<th>Number of Years that have Elapsed Between the Start Date and the Date of Termination</th>
<th>Compensation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>1.40</td>
</tr>
<tr>
<td>6-10</td>
<td>1.20</td>
</tr>
<tr>
<td>11-20</td>
<td>1.15</td>
</tr>
<tr>
<td>21-30</td>
<td>1.10</td>
</tr>
<tr>
<td>31-50</td>
<td>1.05</td>
</tr>
<tr>
<td>&gt;50</td>
<td>1.00</td>
</tr>
</tbody>
</table>

4. In addition:
a. The retired CRTs must be those that were issued to the Forest Project, or that were issued to other Forest Projects registered with the Reserve.

b. The retired CRTs must be designated in the Reserve's software system as compensating for an Avoidable Reversal.”

Provision 3  
Source 1, section 2.7: "The Reserve requires a monitoring plan to be established for all monitoring and reporting activities associated with a project. The monitoring plan serves as the basis for verification bodies to confirm that the monitoring and reporting requirements in each protocol have been met and that consistent, rigorous monitoring and record-keeping is ongoing at the project site. Monitoring plans must cover all aspects of monitoring and reporting contained in a protocol and must specify how data for all relevant parameters will be collected and recorded. Each protocol specifies in a table the parameters that must be monitored and how data for each parameter must be acquired (e.g., from measurement, calculation, approved references or operating records)."

Provision 4  
Source 2, section 8.2: “All monitoring reports are due within 12 months of the end of the Reporting Period.”

Provision 5  
Source 2, section 3.6: "For a Forest Project to be eligible for registration with the Reserve, the Project Operator is required to enter into a Project Implementation Agreement (PIA) with the Reserve. The PIA is an agreement between the Reserve and a Project Operator setting forth: (i) the Project Operator's obligation (and the obligation of its successors and assigns) to comply with the Forest Project Protocol, and (ii) the rights and remedies of the Reserve in the event of any failure of the Project Operator to comply with its obligations.”

Provision 6  
Source 3, section 12.b.3: "For the Duration of the Term, Forest Owner does hereby covenant to and with the Reserve that: [...] All reports, statements, certificates and other data, including without limitation the annual reporting documents, provided by and on behalf of Forest Owner to the Reserve in connection with the Forest Project Protocols, this Agreement, the Property and the Forest Project shall be true, correct and complete.”

Assessment outcome

The approach is assigned a score of 4.

Justification of assessment

The above documentation shows that if a monitoring report is not submitted, this constitutes a breach of the project implementation agreement. As a consequence, all credits previously issued to the projects shall be compensated for (provision 1 and 2). No information on a grace period for submitting a report is available. The approach is therefore assigned a score of 4.
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:

<table>
<thead>
<tr>
<th>Program requirements</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>The project's credits held in a buffer reserve are retired</td>
<td>4</td>
</tr>
<tr>
<td>The project’s credits held in a buffer reserve stay in the reserve without retiring them</td>
<td>3</td>
</tr>
<tr>
<td>No action required (all credits are issued to the project owners)</td>
<td>1</td>
</tr>
</tbody>
</table>

Information sources considered

1 Forest Project Protocol, version 4.0, June 2017, available at https://www.climateactionreserve.org/how/protocols/forest/

2 Personal communication with CAR, July 2020.

Relevant carbon crediting program provisions

Provision 1 Source 1, section 7.2.1: "The Buffer Pool is a holding account for Forest Project CRTs, which is administered by the Reserve. All Forest Projects must contribute a percentage of CRTs to the Buffer Pool any time they are issued CRTs for verified GHG reductions and removals".

Provision 2 Source 2: "Credits that are placed in the buffer pool are only retired if there has been a reversal. There is no time limit for how long a credit can be in the buffer pool. We currently do not have a policy that would require retirement of buffer pool credits for existing project activities at the end of the monitoring period".

Assessment outcome

The approach is assigned a score of 3.

Justification of assessment

The above documentation shows that after the end of regular monitoring, credits held in the buffer reserve stay within the reserve without retiring them. The approach is therefore assigned a score of 3.
**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 to 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.

<table>
<thead>
<tr>
<th>Program requirements</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>All types of reversals must be compensated for</td>
<td>4</td>
</tr>
<tr>
<td>Only unintentional reversals (e.g. due to natural disturbances) must be compensated for</td>
<td>1</td>
</tr>
</tbody>
</table>

**Information sources considered**

1. Forest Project Protocol, version 4.0, June 2017, available at [https://www.climateactionreserve.org/how/protocols/forest/](https://www.climateactionreserve.org/how/protocols/forest/)

**Relevant carbon crediting program provisions**

Provision 1 Source 1, section 7.3: “The Reserve requires that all reversals be compensated through the retirement of CRTs. If a reversal associated with a Forest Project was unavoidable (as defined below), then the Reserve will compensate for the reversal on the Project Operator's behalf by retiring CRTs from the Buffer Pool. If a reversal was avoidable (as defined below) then the Project Operator must compensate for the reversal by surrendering CRTs from its Reserve account”.

Provision 2 Source 1, section 7.3.1: “An Unavoidable Reversal is any reversal not due to the Project Operator's negligence, gross negligence or willful intent, including wildfires or disease that are not the result of the Project Operator's negligence, gross negligence or willful intent”.

Provision 3 Source 1, section 7.3.2: “An Avoidable Reversal is any reversal that is due to the Project Operator's negligence, gross negligence, or willful intent, including harvesting, development, and harm to the Project Area due to the Project Operator’s negligence, gross-negligence, or willful intent”.
Application of the CCQI methodology

Assessment outcome
The approach is assigned a score of 4.

Justification of assessment
The above documentation shows that all types of reversals 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. Forest Project Protocol, version 4.0, June 2017, available at https://www.climateactionreserve.org/how/protocols/forest/

Relevant carbon crediting program provisions
Provision 1 Source 1, section 7.3.2: “An Avoidable Reversal is any reversal that is due to the Project Operator’s negligence, gross negligence, or willful intent, including harvesting, development, and harm to the Project Area due to the Project Operator’s negligence, gross-negligence, or willful intent. Requirements for Avoidable Reversals are as follows: [...] 4. Within four months of the Reserve’s approval of the verified estimate of onsite carbon stocks, the Project Operator must retire a quantity of CRTs from its Reserve account equal to the size of the reversal in CO2-equivalent metric tons [...]. In addition: a. The retired CRTs must be those that were issued to the Forest Project, unless those CRTs were previously retired for other purposes. Otherwise, the retired CRTs must be from other Forest Projects registered with the Reserve”.

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Provision 2 Source 1, section 7.3: "If a reversal was avoidable (as defined below) then the Project Operator must compensate for the reversal by surrendering CRTs from its Reserve account".

Provision 3 Source 2: “The Reserve requires that Climate Reserve Tonnes (CRTs) reversed for avoidable reasons be replaced in proportion to any reversals, such that the total number of CRTs issued to a project does not exceed the total quantity of CO2 avoided or sequestered by the same project”.

Provision 4 Source 1, section 7.2.1: “If a Forest Project experiences an unavoidable reversal of GHG reductions and removals (as defined in Section 7.3), the Reserve will retire a number of CRTs from the Buffer Pool equal to the total amount of carbon that was reversed (measured in metric tons of CO2-equivalent). The Buffer Pool therefore acts as a general insurance mechanism against unavoidable reversals for all Forest Projects registered with the Reserve”.

Provision 5 Source 1, section 7.3: “If a reversal associated with a Forest Project was unavoidable (as defined below), then the Reserve will compensate for the reversal on the Project Operator’s behalf by retiring CRTs from the Buffer Pool”.

Assessment outcome

Yes (4 Points).

Justification of assessment

The above documentation specifies that project owners are the primary responsible entity for compensating for intentional reversals (Provision 1, 2 and 3) but not for unintentional reversals (Provision 4 and 5).

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. Forest Project Protocol, version 4.0, June 2017, available at https://www.climateactionreserve.org/how/protocols/forest/


Relevant carbon crediting program provisions

Provision 1 Source 1, section 7: "The Reserve ensures the permanence of GHG reductions and removals through three mechanisms:

1. The requirement for all Project Operators to monitor onsite carbon stocks, submit regular monitoring reports, and submit to regular third-party verification of those reports along with periodic verification site visits (as detailed in Sections 7 through 9 of this protocol) for the duration of the Project Life.

2. The requirement for all Project Operators to sign a Project Implementation Agreement with the Reserve, as described in Section 3.6, which obligates Project Operators to retire CRTs to compensate for reversals of GHG reductions and removals [...]."

Provision 2 Source 1, section 2.2: "A Project Operator must be one of the Forest Owners. The Project Operator is responsible for undertaking a Forest Project and registering it with the Reserve, and is ultimately responsible for all Forest Project reporting and attestations. The Project Operator executes the Project Implementation Agreement (see Section 3.6) with the Reserve."

Provision 3 Source 1, section 3.6: "For a Forest Project to be eligible for registration with the Reserve, the Project Operator is required to enter into a Project Implementation Agreement (PIA) with the Reserve. The PIA is an agreement between the Reserve and a Project Operator setting forth: (i) the Project Operator's obligation (and the obligation of its successors and assigns) to comply with the Forest Project Protocol, and (ii) the rights and remedies of the Reserve in the event of any failure of the Project Operator to comply with its obligations."

Provision 4 Source 2, section 12.b.3: "For the Duration of the Term, Forest Owner does hereby covenant to and with the Reserve that: [...] All reports, statements, certificates and other data, including without limitation the annual reporting documents, provided by and on behalf of Forest Owner to the Reserve in connection with the Forest Project Protocols, this Agreement, the Property and the Forest Project shall be true, correct and complete."

Provision 5 Source 2, article 11: "If the Reserve determines that Forest Owner has breached or violated this Agreement ("Forest Owner Breach"), the Reserve shall deliver written notice to Forest Owner of the Forest Owner Breach ("Breach Notice"). If Forest Owner fails to cure the Forest Owner Breach within sixty (60) days of receiving the Breach Notice, the: (1) Reserve may (but shall not be obligated to): (i) place a notice of breach with respect to the Forest Project, Property and Forest Owner on the Reserve..."
Tracking System, (ii) freeze any activity of Forest Owner on the Reserve Tracking System that relates to the Forest Project and Property, including without limitation the transfer of CRTs, (iii) require Forest Owner to cease and desist from the activity, use or alteration to the Property that gives rise to the Forest Owner Breach and/or (iv) remove the Forest Project from the Reserve Tracking System. (2) Forest Owner shall: (i) within ninety (90) days of receipt of the Breach Notice, provide a written description and explanation of the Forest Owner Breach to the Reserve and (ii) within one-hundred-and-twenty (120) days of receiving the Breach Notice, if the Forest Project was registered with the Reserve as: i) a Reforestation or Avoided Conversion project, Retire a quantity of Eligible CRTs equal to the Total CRTs Issued. ii) an Improved Forest Management project, Forest Owner Retires a quantity of Eligible CRTs equal to Total CRTs Issued multiplied by the Compensation Rate in the following table that corresponds to the number of years that have elapsed between the Effective Date and the date of the Termination Notice.”

<table>
<thead>
<tr>
<th>Number of Years that have Elapsed Between the Effective Date and the date of the Termination Notice</th>
<th>Compensation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>1.40</td>
</tr>
<tr>
<td>6-10</td>
<td>1.20</td>
</tr>
<tr>
<td>11-20</td>
<td>1.15</td>
</tr>
<tr>
<td>21-30</td>
<td>1.10</td>
</tr>
<tr>
<td>31-50</td>
<td>1.05</td>
</tr>
<tr>
<td>&gt;50</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Provision 6 Source 1, article 10.a: “Obligations of Forest Owner Upon a Reversal. Pursuant to the Forest Project Protocol, Forest Owner bears an affirmative responsibility to notify the Reserve of a Reversal. Deadlines for notification of a Reversal are included in the Forest Project Protocol, and vary, depending on whether the Reversal is an Avoidable or an Unavoidable Reversal. (a) Avoidable Reversals. If the Reserve determines that a Reversal has occurred due to either (i) Forest Owner's negligence, gross negligence or willful misconduct, including without limitation, over-harvesting, development, or harm to the Property; or (ii) any act, error or omission of any Person pursuant to the exercise of a right, duty or obligation under a Property Interest or any agreement affecting the Property, including without limitation, an access right, an easement, a covenant, a mineral right, a mining right, a timber right, a mortgage, a deed of trust, a license or any other right to use the Property (each, an "Avoidable Reversal"), then: [...] (2) Forest Owner shall: [...] (iii) within one-hundred-and-twenty (120) days of receiving the Avoidable Reversal Notice, Retire a quantity of Eligible CRTs equal to the difference between the Net Carbon Reduction for the year in which the Avoidable Reversal occurred and the Net Carbon Reduction of the immediately preceding year, for each year in which there has been an Avoidable Reversal."
Assessment outcome

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

Justification of assessment

The above documentation specifies that both provisions are fulfilled. By signing a Project Implementation Agreement, the Project Operator is bound to comply with the Forest Project Protocol, setting out the rules and requirements for monitoring, reporting on and compensating for reversals (provision 1, 2, 3 and 4). The PIA requires the project owners to compensate for reversals within 120 days of being given notice. If they do not do so, they would be in breach of the PIA, and as a response, CAR will freeze their account and may even terminate the project (provisions 5 and 6). This in effect means, that CAR will not issue credits until the reversal is compensated.

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. Forest Project Protocol, version 4.0, June 2017, available at https://www.climateactionreserve.org/how/protocols/forest/


Relevant carbon crediting program provisions

Provision 1 Source 2, article 11: “If the Reserve determines that Forest Owner has breached or violated this Agreement ("Forest Owner Breach"), the Reserve shall deliver written notice to Forest Owner of the Forest Owner Breach ("Breach Notice"). If Forest Owner fails to cure the Forest Owner Breach within sixty (60) days of receiving the Breach Notice, the: (1) Reserve may (but shall not be obligated to): (i) place a notice of breach with respect to the Forest Project, Property and Forest Owner on the Reserve Tracking System, (ii) freeze any activity of Forest Owner on the Reserve Tracking System that relates to the Forest Project and Property, including without limitation the transfer of CRTs, (iii) require Forest Owner to cease and desist from the activity, use or alteration to the Property that gives rise to the Forest Owner Breach and/or (iv) remove the Forest Project from the Reserve Tracking System. (2) Forest Owner shall: (i) within ninety (90) days of receipt of the Breach Notice, provide a written description and explanation of the Forest Owner Breach to the Reserve and (ii) within one-hundred-and-twenty (120) days of receiving the Breach Notice, if the Forest Project
was registered with the Reserve as: i) a Reforestation or Avoided Conversion project, Retire a quantity of Eligible CRTs equal to the Total CRTs Issued".

**Provision 2**
Source 2, article 10.a: "Obligations of Forest Owner Upon a Reversal. Pursuant to the Forest Project Protocol, Forest Owner bears an affirmative responsibility to notify the Reserve of a Reversal. Deadlines for notification of a Reversal are included in the Forest Project Protocol, and vary, depending on whether the Reversal is an Avoidable or an Unavoidable Reversal. (a) Avoidable Reversals. If the Reserve determines that a Reversal has occurred due to either (i) Forest Owner's negligence, gross negligence or willful misconduct, including without limitation, over-harvesting, development, or harm to the Property; or (ii) any act, error or omission of any Person pursuant to the exercise of a right, duty or obligation under a Property Interest or any agreement affecting the Property, including without limitation, an access right, an easement, a covenant, a mineral right, a mining right, a timber right, a mortgage, a deed of trust, a license or any other right to use the Property (each, an "Avoidable Reversal"), then: [...] (2) Forest Owner shall: [...] (iii) within one-hundred-and-twenty (120) days of receiving the Avoidable Reversal Notice, Retire a quantity of Eligible CRTs equal to the difference between the Net Carbon Reduction for the year in which the Avoidable Reversal occurred and the Net Carbon Reduction of the immediately preceding year, for each year in which there has been an Avoidable Reversal".

**Provision 3**
Source 1, section 7: "Under this protocol, reversals due to controllable agents are considered "avoidable". As described in this section, Project Operators are required to identify and quantify the risk of reversals from different agents based on project-specific circumstances. The resulting risk rating determines the quantity of Climate Reserve Tonnes (CRTs) that the project must contribute to the Reserve Buffer Pool to insure against reversals".

**Provision 4**
Source 1, section 7.2.2: "Project Operators who record a Qualified Conservation Easement or Qualified Deed Restriction in conjunction with implementing a Forest Project will receive a lower risk rating (see Appendix A)".

**Provision 5**
Source 1, Appendix A: Determination of a Forest Project’s Reversal Risk Rating:
Assessment outcome

No (0 Points).

Justification of assessment

If a project owner did not compensate for avoidable (intentional) reversals, this would clearly constitute a breach of the Project Implementation Agreement as shown by the documentation above (provisions 1 and 2). However, neither the Project Implementation Agreement nor the Forest Project Protocol nor any other document of CAR explicitly states the procedure for dealing with avoidable reversals in case the project owners are not able or willing to comply with their obligation to compensate for avoidable reversals or with their obligation to retire a quantity of eligible CRTs equal to the total amount of CRTs issued as a consequence of breaching the Project Implementation Agreement. The Forest Project Protocol as well as the Project Implementation Agreement only state that compensation is done through the buffer pool in cases of unavoidable (unintentional) reversals.

At the same time, the risk assessment which determines the contribution of a forest project to the buffer pool includes a default risk relating to financial failure or mismanagement (provision 3). This default risk is taken into account when determining the overall risk rating of a project and the corresponding contribution to the buffer pool (provision 5). A project owner may reduce the default risk rating by providing a Qualified Conservation Easement or a Qualified Deed Restriction (provision 4). The fact that the risk assessment takes a default of a project owner into account could be interpreted as an indication that the buffer pool might also be used to compensate for an avoidable reversal. However, an explicit provision that ensures that this could not be found in CAR’s documents. The indicator is therefore not 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 Forest Project Protocol, version 4.0, June 2017, available at https://www.climateactionreserve.org/how/protocols/forest/

Relevant carbon crediting program provisions
Provision 1 Source 1, section 7: "The Reserve ensures the permanence of GHG reductions and removals through three mechanisms: [...] 3. The maintenance of a Buffer Pool to provide insurance against reversals of GHG reductions and removals due to unavoidable causes (including natural disturbances such as fires, pest infestations, or disease outbreaks)".

Assessment outcome
Yes (6 Points).

Justification of assessment
The above documentation clearly 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 Forest Project Protocol, version 4.0, June 2017, available at https://www.climateactionreserve.org/how/protocols/forest/
Relevant carbon crediting program provisions

Provision 1  Source 1, section 7: "Under this protocol, reversals due to controllable agents are considered “avoidable”. As described in this section, Project Operators are required to identify and quantify the risk of reversals from different agents based on project-specific circumstances. The resulting risk rating determines the quantity of Climate Reserve Tonnes (CRTs) that the project must contribute to the Reserve Buffer Pool to insure against reversals”.

Provision 2  Source 1, section 7.2.2: "Project Operators who record a Qualified Conservation Easement or Qualified Deed Restriction in conjunction with implementing a Forest Project will receive a lower risk rating (see Appendix A)".

Provision 3  Source 1, Appendix A: Determination of a Forest Project’s Reversal Risk Rating:

Risks that may lead to reversals are classified into the categories identified in Table A.1.

Table A.1. Forest Project Risk Types

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Risk Type</th>
<th>Description</th>
<th>How Risk is Managed in this Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Financial Failure Leading to Bankruptcy</td>
<td>Financial failure can lead to bankruptcy and/or alternative management decisions to generate income that result in reversals through over-harvesting or conversion</td>
<td>Default Risk</td>
</tr>
<tr>
<td></td>
<td>Project Implementation Agreement (PIA) Subordination</td>
<td>Subordinating the PIA to mortgages or deeds on or affecting the Project</td>
<td>Default Risk</td>
</tr>
<tr>
<td>Management</td>
<td>Illegal Harvesting</td>
<td>Loss of project stocks due to timber theft</td>
<td>Default by Area</td>
</tr>
<tr>
<td></td>
<td>Conversion to Non-Forest Uses</td>
<td>Alternative land uses are exercised at project carbon expense</td>
<td>Default Risk</td>
</tr>
<tr>
<td></td>
<td>Over-Harvesting</td>
<td>Exercising timber value at expense of project carbon</td>
<td>Default Risk</td>
</tr>
</tbody>
</table>

Provision 4  Source 2, section 2.8.1: “The Reserve maintains a buffer pool composed of credits from project types with identified risk of unavoidable reversal. Credits within the buffer pool from different project types are functionally distinct, despite the buffer pool being administered in one comprehensive account in the Reserve registry. For example, grassland credits in the buffer pool will be used to compensate for reversals of grassland projects, while forest credits in the buffer pool will be used to compensate for reversals of forest projects. [...] Buffer pool contributions are established by each protocol, in accordance with the best available literature. In the highly unlikely event that the buffer pool does not contain sufficient supply of credits for a certain project type or program eligibility qualification to compensate for identified, unavoidable reversals for that same project type or program eligibility qualification, the Reserve may opt to retire buffer pool credits of another type.”

Assessment outcome

3.72 Points.
The number of points is calculated by dividing the average percentage points that the carbon crediting program requires to be placed in the pooled buffer reserve (18.59) by 5.

Justification of assessment

Provisions 1, 2 and 3 explain how the fraction of credits to be placed in the pooled buffer reserve is determined. According to the information available in CAR’s public registry (Tables “Projects Offset Credits Issued” and “Buffer Pool Account Balance”, available at https://thereserve2.apx.com/mymodule/mypage.asp as of February 2022), the average fraction of issued carbon credits from projects at risk of reversal that is placed into the reserve is 18.59 percent. The average has been calculated by determining the ratio between credits deposited in the buffer (at the time of issuance) by those projects that contribute to the buffer as of February 2022 by the total number of credits issued for those projects that contribute to the buffer as of February 2022. This calculation includes all projects that contribute to the buffer pool and does not only consider forestry projects. This is because credits from other project types will be used to compensate for reversals in case credits from forestry projects are not sufficient (even if this event may be unlikely), as provision 4 explains.

The number of points is calculated by dividing the average percentage points that the carbon crediting program requires to be placed in the pooled buffer reserve by 5. This results in 3.72 points.

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 Forest Project Protocol, version 4.0, June 2017, available at https://www.climateactionreserve.org/how/protocols/forest/

Relevant carbon crediting program provisions

Provision 1 Source 1, section 7: "Under this protocol, reversals due to controllable agents are considered “avoidable”. As described in this section, Project Operators are required to identify and quantify the risk of reversals from different agents based on project-specific circumstances. The resulting risk rating determines the quantity of Climate Reserve Tonnes (CRTs) that the project must contribute to the Reserve Buffer Pool to insure against reversals”.

Provision 2 Source 1, section 7.2.2: "Project Operators who record a Qualified Conservation Easement or Qualified Deed Restriction in conjunction with implementing a Forest Project will receive a lower risk rating (see Appendix A)".

Provision 3 Source 1, Appendix A: Determination of a Forest Project’s Reversal Risk Rating:
Provision 4 Source 1, section 2.8.1: “Buffer pool contributions are established by each protocol, in accordance with the best available literature. In the highly unlikely event that the buffer pool does not contain sufficient supply of credits for a certain project type or program eligibility qualification to compensate for identified, unavoidable reversals for that same project type or program eligibility qualification, the Reserve may opt to retire buffer pool credits of another type. If the aggregate buffer pool still is not sufficient for addressing any identified unavoidable reversals, a situation the Reserve believes to be close to impossible (or indicative of an environmental catastrophe hard to imagine), the Reserve will assess the situation and pursue one or more of the following options depending on what is most suitable:

- Require an increased buffer pool contribution from existing projects
- Revise reversal risk ratings within relevant protocols upwards for future reporting to compensate for the unavoidable reversals
- Purchase and retire an adequate amount of similar credits through the Reserve’s Blind Trust
- Consult with affected project developers to determine an appropriate course of action”.

Assessment outcome

Yes (2 Points).

Justification of assessment

The above documentation shows that the indicator is fulfilled.
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


Relevant carbon crediting program provisions

Provision 1 Source 2, section 2.8.1: “The Reserve maintains a buffer pool composed of credits from project types with identified risk of unavoidable reversal. Credits within the buffer pool from different project types are functionally distinct, despite the buffer pool being administered in one comprehensive account in the Reserve registry. For example, grassland credits in the buffer pool will be used to compensate for reversals of grassland projects, while forest credits in the buffer pool will be used to compensate for reversals of forest projects. [...] Buffer pool contributions are established by each protocol, in accordance with the best available literature. In the highly unlikely event that the buffer pool does not contain sufficient supply of credits for a certain project type or program eligibility qualification to compensate for identified, unavoidable reversals for that same project type or program eligibility qualification, the Reserve may opt to retire buffer pool credits of another type.”

Assessment outcome

1.58 points (The number of registered projects contributing to the pooled buffer reserve (79) divided by 50, with a maximum of 2 points).

Justification of assessment

The information in the registry specifies that 79 registered projects currently contribute to the pooled buffer reserve (February 2022). This includes all projects that contribute to the buffer pool and does not only consider forestry projects. This is because credits from other projects types will be used to compensate for reversals in case credits from forestry projects are not sufficient (even if this event may be unlikely), as provision 1 explains.

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 hold in the buffer reserve at the time of assessment."

**Relevant carbon crediting program provisions**


**Assessment outcome**

0.68 points (The number of regions (17) divided by 25, with a maximum of 2 points).

**Justification of assessment**

According to the information provided in the Program Manual (provision 1) as well as the information provided in CAR's registry, CAR is operating in the USA and in Mexico.

The information provided in CAR's registry as of February 2022 shows that the number of regions in which projects are implemented is 17. Dividing 17 by 25 leads to an assessment outcome of 0.68. This calculation includes all projects that contribute to the buffer pool and does not only consider forestry projects. This is because credits from other projects types will be used to compensate for reversals in case credits from forestry projects are not sufficient (even if this event may be unlikely), as provision 2 explains.
Sub-indicator 3.2.1.5.9

Relevant scoring methodology provisions

"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 Buffer pool account balance, downloaded from CAR registry, available at https://thereserve2.apx.com/myModule/rpt/myrpt.asp


Relevant carbon crediting program provisions

Provision 1 Source 2, section 2.8.1: "The Reserve maintains a buffer pool composed of credits from project types with identified risk of unavoidable reversal. Credits within the buffer pool from different project types are functionally distinct, despite the buffer pool being administered in one comprehensive account in the Reserve registry. For example, grassland credits in the buffer pool will be used to compensate for reversals of grassland projects, while forest credits in the buffer pool will be used to compensate for reversals of forest projects. [...] Buffer pool contributions are established by each protocol, in accordance with the best available literature. In the highly unlikely event that the buffer pool does not contain sufficient supply of credits for a certain project type or program eligibility qualification to compensate for identified, unavoidable reversals for that same project type or program eligibility qualification, the Reserve may opt to retire buffer pool credits of another type."

Assessment outcome

-4.2 points.

The number of percentage points (41.93) 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 buffer pool account balance available via CAR’s registry as of February 2022, the three largest projects contributing to the pooled buffer reserve represent 42 percentage points of the carbon credits currently held in the pooled buffer reserve. Dividing this number by 10 and applying the scoring methodology leads to an assessment outcome of -4.2. This calculation includes all projects that contribute to the buffer pool and does not only consider forestry projects. This is because credits from other projects types will be used to compensate for reversals in case credits from forestry projects are not sufficient (even if this event may be unlikely), as provision 1 explains.
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. CAR’s website
3. Clarification received by CAR by email

Relevant carbon crediting program provisions

Provision 1 Source 3: Communication by CAR: “The Reserve is a 501(c)(3), tax-exempt organization and as such, U.S. federal and California state law governs the legal obligations and fiduciary duties that the Reserve’s Board of Directors must fulfill in the event that the organization files for bankruptcy or dissolves. Additionally, U.S. federal law requires that the organization’s assets, such as its buffer pool credits, be transferred to another 503(c)(3) organization or to the federal, state, or local government. Therefore, there is no risk that buffer pool credits would be stranded in a non-operative registry or sold to a third-party. As part of a plan of dissolution, the Board of Directors would decide the disposition of the buffer pool. Federal law requires that in carrying out its fiduciary duties the Board act in alignment with the organization mission, therefore, the purpose of the buffer pool would be fulfilled. The process for handling the Reserve’s assets in the event of bankruptcy is part of its internal operating procedures and is not intended to be included in the Reserve’s Program Manual or other public documents.”

Assessment outcome

No (0 points).

Justification of assessment

No publicly available procedures of the CAR could be identified that specify how a continued operation of the reserve is ensured if the carbon crediting program ceases to exist. It should be noted, however, that CAR communicated that the process for handling the Reserve’s assets in the event of bankruptcy is part of its internal operating procedures (Provision 1). CAR further clarified its status as a 501(c)(3), tax-exempt organization and how relevant laws may ensure that the pooled buffer reserve continues operating. However, as the program does not have publicly accessible procedures that specifically ensure the continued operation of the reserve, the indicator is not deemed to be 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


Relevant carbon crediting program provisions

Provision 1 Source 1, section 2.8.1: “The Reserve maintains a buffer pool composed of credits from project types with identified risk of unavoidable reversal”.

Assessment outcome

No (0 Points).

Justification of assessment

The above documentation specifies that the program funds its pooled buffer reserve only with carbon credits from projects that do have a material non-permanence risk. The indicator is not fulfilled.

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

Relevant carbon crediting program provisions

Provision 1 Source 1, section 2.8.1: "The Reserve maintains a buffer pool composed of credits from project types with identified risk of unavoidable reversal".

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


Relevant carbon crediting program provisions

- 

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


Relevant carbon crediting program provisions

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. Forest Project Protocol, version 4.0, June 2017, available at [https://www.climateactionreserve.org/how/protocols/forest/](https://www.climateactionreserve.org/how/protocols/forest/)

Relevant carbon crediting program provisions

Provision 1 Source 1, section 7.2: “The Reserve requires Project Operators to insure against reversals, based on a project-specific risk evaluation. Currently, insurance must take the form of contributing CRTs to the Buffer Pool administered by the Reserve. In the future, the Reserve anticipates that other insurance instruments may be available to insure against reversals.”

Provision 2 Source 1, section 7.2.3: “It is the Reserve’s expectation that other options to insure against reversals will develop for projects in the future. These options may include direct insurance. Alternative insurance mechanisms could be used to directly reduce the required Buffer Pool contributions for a project. The Reserve must review and approve alternative insurance mechanisms before they may be used.”

Assessment outcome

No (0 points).
Justification of assessment

The above documentation specifies that the indicator is not fulfilled as the use of insurances is not required by CAR.

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. Forest Project Protocol, version 4.0, June 2017, available at https://www.climateactionreserve.org/how/protocols/forest/

Relevant carbon crediting program provisions

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 18.78 points. Applying the scoring approach in the methodology, this results in a score of 2.08 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

<table>
<thead>
<tr>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>The program provisions do not allow or require adjusting the baseline upwards (i.e. towards higher emissions in the case of reversals)</td>
<td>4</td>
</tr>
<tr>
<td>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</td>
<td>3</td>
</tr>
<tr>
<td>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</td>
<td>1</td>
</tr>
</tbody>
</table>

Information sources considered


Relevant carbon crediting program provisions

Provision 1 Source 1, article 20: “No Change to Forest Project or Baseline. Forest Owner shall not change, modify or revise the Forest Project or Baseline in any way unless the Reserve consents to such change, modification or revision. If the Reserve consents to modification or revision of the Forest Project or Baseline, then the Forest Project Design Document attached hereto as Exhibit B shall be updated and recorded in accordance with Section 23”.

Provision 2 Source 2, section 7.4: "If a reversal lowers the Forest Project's actual standing live carbon stocks below its approved baseline standing live carbon stocks, the Forest Project will automatically be terminated, as the original approved baseline for the project would no longer be valid”.

Assessment outcome

The approach is assigned a score of 4.

Justification of assessment

The above documentation specifies that the carbon crediting program provisions are consistent with the methodology requirements to receive a score of 4 as no update of the baseline is allowed over the course of a project.

Scoring results

According to the above assessment, the carbon crediting program achieves a score of 4 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 2.08 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 score of 3.02 for the approach.
Annex: Summary of changes from previous assessment sheet versions

The following table describes the main changes implemented in comparison to the assessment from 31 January 2023.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project type</td>
<td>Provisions of this assessment sheets have been found applicable for the project types commercial afforestation and improved forest management.</td>
</tr>
<tr>
<td>Indicator 3.2.1.2</td>
<td>Provisions for improved forest management have been added.</td>
</tr>
<tr>
<td>Sub-indicator 3.2.1.5.2</td>
<td>Provisions for improved forest management have been added.</td>
</tr>
</tbody>
</table>