Verification Company:

Rainforest Alliance

SmartWood Program Headquarters
65 Millet St. Suite 201
Richmond, VT 05477 USA
Tel: 802-434-5491
Fax: 802-434-3116
www.smartwood.org

Methodology Assessment
Managed by:

Jl. Ciung Wanara No.1x
Lingkungan Kerta Sari, Kelurahan Panjer,
Denpasar Selatan, 80225 Bali
Indonesia
Tel: +62 361 224 356
Fax: +62 361 235 875
Mobile: 62-81-2100-6643
Contact Person: Indu Sapkota
Email: isapkota@ra.org

Voluntary Carbon Standard Fifth Methodology Assessment Report for: Improved Forest Management Conversion of Logged to Protected Forests

Final Report Issued:	2 February 2011
Fifth Audit dates:	24 to 25 January 2011
Draft Final Report Issued:	01 October 2010
Fourth Audit Dates:	12 to 14 September 2010
Draft Final Report Issued:	30 August 2010
Third Audit Dates:	2 to 9, and 27 August 2010
Draft Final Report Issued:	20 April 2010
Second Audit Dates:	08 to 20 April 2010
Date Draft Report Issued:	01 March 2010
First Audit Dates:	17 February to 01 March 2010
Assessment team:	Jared Nunery, Adam Gibbon, Manuel Estrada
Final Report Approved by:	Jeff Hayward
Fifth Report Approved by:	Adam Gibbon
Fourth Report Approved by:	Mateo Carino Fraisse
Third Report Approved by:	Jeff Hayward
Second Report Approved by:	Jeff Hayward
Assessment standard:	*Voluntary Carbon Standard, 2007.1 (November 18, 2008)* *Voluntary Carbon Standard, Guidance for Agriculture, Forestry, and Other Land Use, 2007.1 (November 18, 2008)* *Voluntary Carbon Standard, Tool for AFOLU Methodological Issues, (November 18, 2008)*

Methodology Version Assessed: LtPF Methodology V3-2 November 2010

Proponent contact:	James Schultz, Director of GCS
Proponent address:	Lvl 13, 84 Pitt St, Sydney, 2000, NSW

Table of Contents

1 INTRODUCTION

1.1 Objective

The purpose of this report is to document conformance of the *Improved Forest Management Conversion of Logged to Protected Forests v3-2* methodology with the requirements of the Voluntary Carbon Standard 2007.1 (VCS). This assessment was requested by GreenCollar Climate Solutions, hereafter referred to as the "Methodology Developer". The report represents the first assessment of the VCS double approval process. The report presents the findings of qualified Rainforest Alliance program auditors and technical experts in methodologies for greenhouse gas (GHG) emissions and removals, who have assessed the methodology under review according to the applicable standard(s) and protocols of the Voluntary Carbon Standard. Section 2 below provides the assessment conclusions. Rainforest Alliance carbon evaluation reports will be available to the public only upon finalization and after agreement of both the proponents and the Rainforest Alliance. Particular material in the report identified as confidential by the Methodology Developer will be excluded from any publicly available reports.

This report represents the fifth assessment by Rainforest Alliance of an improved forest management methodology developed by Green Collar Climate Solutions. The methodology version, LtPF Methodology_V3-2 (dated January 2011) has been presented to Rainforest Alliance for assessment, was developed to address the corrective action requests identified by Rainforest Alliance in previous versions of the methodology , comments raised during the VCSA public comment period, and those issued raised by the second validation body as part of the VCS Double Approval Process. Version 3-2 of the methodology represents the final version of the methodology which has been approved by both the first and second independent validators, as per the requirements of the VCS Double Approval Process.

Dispute resolution: If Rainforest Alliance clients encounter organizations or individuals having concerns or comments about Rainforest Alliance / SmartWood and our services, these parties are strongly encouraged to contact the SmartWood program headquarters directly. Formal complaints or concerns should be sent in writing and may simultaneously been sent to the Voluntary Carbon Standard Association. For more information on complaints and appeals, please visit: http://www.rainforest-alliance.org/forestry.cfm?id=dispute_resolution.

1.2 Rainforest Alliance Fulfilment of Criteria to Perform Assessment

The Rainforest Alliance's SmartWood program was founded in 1989 to certify forestry practices conforming to Forest Stewardship Council (FSC) standards and now focuses on providing a variety of forest auditing services. The Rainforest Alliance SmartWood program is a member of the Climate, Community, and Biodiversity Alliance (CCBA) and approved verifier to CCB standards, a verifier with the Plan Vivo (PV) and Carbon Fix standards, and an accredited validators/verifier with the Voluntary Carbon Standard (VCS).

With specific reference to Section 4.7.2 of the 'VCS Program Normative Document - Double Approval Process[1]', Rainforest Alliance meets the following criteria to provide an assessment of a Non ARR Methodology element:

[1] http://www.v-c-s.org/docs/VCS%20Program%20Normative%20Document%20-%20Double%20Approval%20Process.pdf

1) Eligible under the VCS Program to perform validation for sectoral scope 14 (AFOLU): Rainforest Alliance has received accreditation from the American National Standards Institute (ANSI) to ISO 14065:2007, the international standard for greenhouse gas validation and verification bodies and a necessary requirement for approval to the Voluntary Carbon Standard(VCS).

2) Jeffrey Hayward is a VCS approved AFOLU expert in the fields of REDD and IFM, and will be involved in the assessment[2].

1.3 Scope and Criteria

Scope:

This assessment of a new methodology evaluated whether or not the methodology has been prepared consistent with the guidance provided by the VCS Program, including Section 5 (project level requirements) and Section 6 (methodologies) of the VCS 2007.1 document.

The scope of this assessment included, as a minimum:

1. Eligibility criteria. Assessment of whether the methodology's eligibility criteria were appropriate and adequate.

2. Project boundary: Assessment of whether an appropriate and adequate approach was provided for the definition of the project's physical boundary and sources and types of gases included.

3. Baseline approach: Assessment of whether the approach for determining the project baseline was appropriate and adequate.

4. Additionality: Assessment of whether the approach/tools for determining whether the project was additional, and was appropriate and adequate.

5. Emissions: Assessment of whether an appropriate and adequate approach was provided for calculating baseline emissions, project emissions and emission reductions.

6. Leakage: Assessment of whether the approach for calculating leakage was appropriate and adequate.

7. Monitoring: Assessment of whether the monitoring approach was appropriate and adequate.

8. Data and parameters: Assessment of whether monitored and not monitored data and parameters used in emissions calculations were appropriate and adequate.

[2] http://www.v-c-s.org/docs/VCS_Approved_AFOLU_experts.pdf

9. Adherence to the project-level principles of the VCS Program: Assessment of whether the methodology adhered to the project-level principles of the VCS Program.

10. Special case of rejection from other GHG programs: Assessment in the special case that the methodology had been rejected by another GHG program.

11. Public Review: Under the double approval process, new methodologies must be posted for public comment prior to the first assessment. Any comments made during this process were reported here and included as an attachment to this report.

The methodology was assessed against these eleven criteria. The first nine were referred to specifically by the VCS in section 5.1.2 of the VCS Program Normative Document: Double Approval Process as the minimum to evaluate. The special case of rejection from other GHG programs is also a VCS requirement. There follows a 'Public Review' section that documents findings, and the Methodology Developer's response from the public comment period which all VCS methodologies are subject to. Each of the criteria are followed by more specific points that pertain to Section 5 and/or Section 6 of the VCS 2007.1 standards and where appropriate the relevant section of the VCS Tool for AFOLU Methodological Issues.

The following project level principles, based upon ISO 14064-2:2006, from Section 5 of the VCS 2007.1, were the principles considered in evaluating the methodology against the checklist criteria:

i. General: The application of principles is fundamental to ensure that GHG-related information is a true and fair account. The principles are the basis for, and will guide the application of, requirements in this part of ISO 14064:2006 and the VCS 2007.1.

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

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

iv. Consistency: Enable meaningful comparisons in GHG-related information.

v. Accuracy: Reduce bias and uncertainties as far as is practical.

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

vii. Conservativeness: Use conservative assumptions, values and procedures to ensure that GHG emission reductions or removal enhancements are not overestimated

Standard criteria:

This assessment follows in line with the guidance provided within the following standards:

- *Voluntary Carbon Standard, 2007.1 (November 18, 2008)*
- *Voluntary Carbon Standard, Guidance for Agriculture, Forestry, and Other Land Use, 2007.1 (November 18, 2008)*
- *Voluntary Carbon Standard, Tool for AFOLU Methodological Issues, (November 18, 2008)*
- *VCS Program Normative Document: Double Approval Process Version 1.0 (June 18, 2009)*

1.4 Methodology Description

The methodology submitted for the final stage of the assessment, represents the fifth version of the original IFM methodology developed by GreenCollar Climate Solutions. Version 3.2 (January 2011) incorporates comments from two public reviews as well as revisions to address the CARs raised in the 01st March 2010, 20th April 2010, 30th August 2010, 01st October 2010 Rainforest Alliance reports and also revisions to address those CLs raised during the second validator assessment of the methodology as part of the VCS Double Approval Process. The revised methodology presents a simplified version to address non-conformities noted in the previous four assessments by Rainforest Alliance. The following description of the revised methodology was copied from the Part 2, p.9 of the revised methodology provided by GreenCollar Climate Solutions:

"The methodology is organised into nine steps:

- *STEP 0 – Eligibility, sets the criteria for eligibility of projects under the proposed LtPF methodology;*
- *STEP 1 – Project Boundaries and Scope, provides guidelines for defining the geographical and temporal boundaries of the project and lists the GHG emissions sources and carbon pools to be included in the project accounts;*
- *STEP 2 – Baseline Selection, Additionality and Baseline Modelling, provides guidelines to select the most conservative baseline scenario and to determine the additionality of the proposed project activities against the baseline selected;*
- *STEP 3 – Baseline Scenario Greenhouse Gas Emissions, provides the detailed, step-by-step procedure to develop conservative estimates of net greenhouse gas emissions resulting from changes in carbon stocks as a result of planned timber harvest in the baseline scenario;*
- *STEP 4 – Project Scenario Net Greenhouse Gas Emissions, provides the detailed, step-by-step procedure to develop conservative estimates of net greenhouse gas emissions resulting from changes in carbon stocks in the project scenario;*

- *STEP 5 – Project Leakage, describes the methodology approach to account for leakage mechanisms arising from the implementation of project activities;*
- *STEP 6 – Net Project Greenhouse Gas Emission Reductions, provides the methodological approach to determine the amount of net greenhouse gas emissions at the end of each year on the basis of the estimates of greenhouse gas emissions determined at steps 3 and 4 for the baseline and project scenarios respectively, and of the estimated amount of leakage determined at step 5;*
- *STEP 7 – Project Voluntary Carbon Units, provides the methodological approach to determine, on the basis of the amount of net greenhouse gas emissions estimated at Step 6 and deductions to account for risk and uncertainty, the amount of carbon units that should be credited to the project each year over the crediting period; and*
- *STEP 8 – Project Monitoring, provides guidelines for the implementation of a monitoring plan and identifies monitored parameters to assess carbon stock change and disturbance in the project case.*

2 ASSESSMENT CONCLUSIONS

This fifth assessment report includes the findings from all four previous assessment reports (see Appendix C for findings from the First Assessment). Also included in this report is a comprehensive list of all Corrective Action Requests (CARs) issued throughout the assessment process (see Section 2.2) as well as all Observations (OBS) issued (see Section 2.2.1). It should be noted that findings from previous assessment reports may have incorrect references to the current version of the methodology, as the methodology has undergone significant revisions throughout the assessment process.

The fifth revision of the GCS *Improved Forest Management Conversion of Logged to Protected Forests* methodology includes multiple improvements following the assessment of the second validation body as part of the VCS Double Approval Process. The simplification of the methodology has corrected many of the existing non-conformities identified in the second assessment report of v2.0 of the methodology. Further revisions to the v3.0 of the methodology have led to significant improvements within the methodology. The current v3-2 of the methodology now presents a clear, simplified process for the estimation of emission reductions from project activities. The methodology presents a clear step-wise approach, outlined in Part 2 of the methodology.

The simplified methodology is founded on the conservative omission of baseline emissions from forest management activities, and the assumption of instantaneous release of carbon from dead wood pools and wood products. The one remaining non-conformity from the 01 October 2010 report has been closed based on additional clarification received from the VCSA regarding the specific issue of accounting for carbon stock loses within the project area.

Specifically, the current methodological equations do not account for carbon stock losses throughout the entire project area, but rather isolate calculations to only those areas that would have been harvested in the baseline scenario. Additional clarification was sought by Rainforest Alliance to the VCSA regarding the use of the identified methodological process for the calculation of carbon stock losses from natural disturbance within the project area. Clarification received from the VCSA to Rainforest Alliance in December of 2010, confirmed that IFM methodologies are not required to account for carbon stock losses throughout the entire project area, but rather can account for only those loses in areas that would have been harvested in the baseline scenario. Following the receipt of the additional clarification from the VCSA, CAR 39/10 was closed. It should be noted that one new observation (see OBS 01/11) was issued to highlight minor typographical errors that should be corrected prior to the finalization of the methodology. However, no material issues were identified during the fifth assessment, and as such Rainforest Alliance has found the GreenCollar Climate Solutions IFM Conversion of Logged to Protected Forests methodology v3-2 (January 2011) to be in conformance with the VCS 2007.1 standard.

Additionally, prior to beginning the 5th assessment, Rainforest Alliance was requested by both GCS and VCSA to assess the impacts of the removal of the term “unlogged” from p.8 first paragraph, and p.9 second paragraph. The removal of this term would allow for the application of the GCS methodology for the protection of both previous logged and unlogged forests that would be logged in the absence of carbon financing. In version 3.2 (January 2011) of the methodology, references to the applicability of the methodology to only unlogged forests have been removed from p.2, p.8, p.9, and p.10. Rainforest Alliance has found that the removal of the

term “unlogged” does not materially affect the application of the methodology, and as such, this would be an appropriate acceptable alteration to the methodology.

2.1 Audit Team Recommendation

Based on an evaluation of the Methodology Developer’s new methodology, according to the defined assessment scope and criteria, which assessed the credibility of all data, rationale, assumptions, justifications and documentation provided by the methodology developer the Rainforest Alliance new methodology assessment team finds that the methodology has:

☒ Demonstrated unqualified compliance/conformance with the standard

☐ Not demonstrated unqualified compliance/conformance with the standard.

2.2 Corrective Action Requests

Note: A non-conformance is defined in this report as a deficiency, discrepancy or misrepresentation that in all probability materially affects the methodology. Corrective Action Request (CAR) language uses “shall” to suggest its necessity and tries not to be prescriptive in terms of mechanisms to mitigate the CAR. Each CAR is brief and refers to a more detailed finding in the appendices.

CARs identified during draft assessment reports must be successfully closed by the Methodology Developers before Rainforest Alliance will issue a positive assessment decision. Any open CARs upon finalization of the assessment report will result in a qualified assessment statement which lists: (a) all qualifications, (b) rationale for each qualification, and (c) impact of each qualification on the methodology.

CAR #:	**CAR 01/10**
Checklist reference:	1.1 Eligibility criteria
CAR description:	GreenCollar Climate Solutions shall clearly define the applicable scope for this methodology.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised version of the methodology expands the eligibility of forest types beyond tropical forests, following the suggestion of a stakeholder comment received during the VCS public review. The increased eligibility to all forest types presents new challenges for the methodology developers, as the methodology will now be applicable to all geographic areas where forests exist. Furthermore the revised methodology clearly states under the scope section (p.2) that the methodology is only applicable for: “… estimating and monitoring greenhouse gas (GHG) emissions of project activities that protect unlogged forests that would be logged in the absence of carbon finance”

CAR Status:	**Closed**

CAR #:	**CAR 02/10**
Checklist reference:	1.2 Eligibility criteria, 1.3 Eligibility Criteria
CAR description:	GreenCollar Climate Solutions shall clearly state that eligible project areas have been designated, sanctioned or approved for forest management by the national or local regulatory bodies.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The Applicability Conditions, Section 4, includes the VCS text that "*Activities related to improved forest management are those implemented on forest lands managed for wood products such as sawtimber, pulpwood, and fuelwood and are included in the IPCC category "forests remaining as forests" (see IPCC AFOLU 2006 Guidelines). Only areas that have been designated, sanctioned or approved for such activities (e.g., as logging concessions or plantations) by the national or local regulatory bodies are eligible for crediting under the VCS Improved Forest Management (IFM) category*. However this is not incorporated into the methodological definition of legal right to harvest. This link is critical to be in conformance with the VCS 2007.1 standard. The methodology does explicitly state that the legal right to harvest must be designated, sanctioned, or approved by the national or local regulatory bodies within the non-cited text. Recognizing that the reference to the VCS standard has been added, the CAR will be closed, however, GCS should refer to **OPEN CAR 40/10** regarding further clarification that should be included in this section.
CAR Status:	**Closed**

CAR #:	**CAR 03/10**
Checklist reference:	1.3 Eligibility criteria, 2.2 Project Boundary, 5.4 Emissions
CAR description:	GreenCollar Climate Solutions shall include a complete definition list of all relevant terms.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology now includes a complete definition list in section two of the revised methodology. Additionally, the revised methodology defers to all relevant VCS definitions where applicable.
CAR Status:	**Closed**

CAR #:	**CAR 04/10**
Checklist reference:	1.3 Eligibility criteria
CAR description:	GreenCollar Climate Solutions shall clearly explain and justify all exclusions in the project area to adequately constrain the use of the

	methodology.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology clearly presents the applicable conditions and project eligibility requirements in section 4 and Step 0. Through the clear presentation of the applicability criteria and eligibility requirements, those excluded areas are now clearly defined.
CAR Status:	**Closed**

CAR #:	**CAR 05/10**
Checklist reference:	1.1, 1.3 Eligibility criteria, 3.1 Baseline approach
CAR description:	GreenCollar Climate Solutions shall clearly define a forest following the guidance of the requirements for IFM projects explained in the VCS Guidance for AFOLU Projects.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology now states in Section 2 p.5: "This methodology uses all VCS approved definitions from the VCS Program Guidelines 2007.1[3] and the VCS Tool for AFOLU Methodological Issues[4]. " By deferring to the VCS definition of forest, the methodology is now in conformance with VCS requirements.
CAR Status:	**Closed**

CAR #:	**CAR 06/10**
Checklist reference:	2.1 Project boundary, 3.4 Baseline approach
CAR description:	GreenCollar Climate Solutions shall explicitly describe how the baseline will be adjusted throughout the project crediting period.
Timeline for conformance:	Not applicable

[3] http://www.v-c-s.org/docs/Voluntary%20Carbon%20Standard%20Program%20Guidelines%202007_1.pdf
[4] http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf

Evidence to close CAR:	Sub-step 1.2.2 of the revised methodology has been changed to remove potential ambiguity regarding the updating of the baseline throughout the project lifetime. The revised methodology now reads: "*Baseline projections are calculated ex-ante and are not adjusted through-out the project lifetime."* This was also reiterated on page 18 of the methodology. Additionally, on p.19 the methodology now includes specific guidance regarding the treatment of time (t*) throughout the course of the project lifetime. The revised methodology now clearly and explicitly states the use of baseline projections throughout the entire project lifetime.
CAR Status:	**Closed**

CAR #:	**CAR 07/10**
Checklist reference:	2.1, 2.2 Project boundary, 5.7 Emissions
CAR description:	GreenCollar Climate Solutions shall clearly define the project crediting period consistently throughout the methodology.
Timeline for conformance:	Not applicable
Evidence to close CAR:	In their response to the first report presented by Rainforest Alliance, GCS acknowledged that the methodology had confused the terms, crediting period and monitoring periods. The revised methodology has been corrected and does not confuse these terms.
CAR Status:	**Closed**

CAR #:	**CAR 08/10**
Checklist reference:	3.2 Baseline approach
CAR description:	GreenCollar Climate Solutions shall contain provisions, following the VCS AFOLU guidance for baseline setting in IFM LtPF projects, for the selection of the most conservative baseline scenario.
Timeline for conformance:	Not applicable
Evidence to close CAR:	In response to **CAR 08/10**, GCS stated that "*Step 2.1 Selection of Baseline* (New p14) now requires project proponents to "identify realistic and credible land-use scenarios that would have occurred on the land within the proposed project boundary in the absence of the IFM project activity". And then "use the current VCS Tool for Demonstration and Assessment of Additionality to assess which of the baseline alternatives shall be excluded from further consideration." The use of the VCS tool in combination with the identification of the realistic and credible land-use scenario, now presents a clear procedure for the identification, and selection of the most likely baseline scenario.

CAR Status:	**Closed**

CAR #:	**CAR 09/10**
Checklist reference:	3.3 Baseline approach, 5.2 Emissions
CAR description:	GreenCollar Climate Solutions shall explicitly state all conservative assumptions, and justify the rationale behind each assumption.
Timeline for conformance:	Not applicable
Evidence to close CAR:	GCS has included a new step that provides specific guidance for the calculation of project activity emissions, and has included specific guidance for the application of the *de minimis* rule following guidance from the VCS standard.
CAR Status:	**Closed**

CAR #:	**CAR 10/10**
Checklist reference:	3.2 Baseline approach
CAR description:	GreenCollar Climate Solutions shall present an approach for the development of IFM LtPF baselines compatible with the VCS Tool for AFOLU Methodological Issues.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology defaults first to the VCS project specific guidance and requirements for IFM LtPF projects. Step 2.1 of the revised methodology includes the following text: "*The project proponent shall select or establish criteria and procedures for identifying and assessing potential baseline scenarios in accordance with rule 6.3 VCS (2007.1) and the specific requirements for IFM projects in the VCS Tool for Methodological Issues (paragraph 14 and footnote 13)*[5] *when constructing the baseline."* Additional guidance is provided for projects below this section. By defaulting to the VCS guidance for IFM projects, the methodology assures conformance with the VCS standard regarding the development of IFM LtPF baselines.
CAR Status:	**Closed**

CAR #:	**CAR 11/10**
Checklist reference:	3.3 Baseline approach, 5.1 Emissions
CAR description:	GreenCollar Climate Solutions shall clearly define the use of reference area and proxy areas within the methodology.
Timeline for conformance:	Not applicable

[5] http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf

Evidence to close CAR:	GCS has updated Step 2.2 of the methodology. The methodology now defines the use of reference areas, and also the conditions a reference area must meet to be applied for use in the methodology
CAR Status:	**Closed**

CAR #:	**CAR 12/10**
Checklist reference:	3.3 Baseline, 5.2 Emissions
CAR description:	GreenCollar Climate Solutions shall present equations in the methodology in an unambiguous way that is easily replicated.
Timeline for conformance:	Not applicable
Evidence to close CAR:	GCS now presents a clear step-wise process that the equations follow to ultimately calculate the number of VCUs. Although minor errors exist within this process, the equations themselves are presented in an unambiguous way that is easily replicated.
CAR Status:	**Closed**

CAR #:	**CAR 13/10**
Checklist reference:	5.3, 5.5 Emissions
CAR description:	GreenCollar Climate Solutions shall clearly describe procedures for the ex-ante estimation of the emissions of project activities and their effects on carbon stocks.
Timeline for conformance:	Not applicable
Evidence to close CAR:	GCS has simplified the methodology by applying a common set of equations for both ex ante and ex post calculations. However, as the simplified methodology does not clearly indicate which equations are applicable to only ex ante equations, and vice versa, it is assumed that all equations are applicable to both types of calculations. This creates multiple challenges for developers as noted in the findings. GCS should strongly consider adding a clarification paragraph to Step 4, describing the use of the GHG calculation equations for both ex ante and ex post calculations. (see **OBS 38/10**)
CAR Status:	**Closed**

CAR #:	**CAR 14/10**
Checklist reference:	5.7 Emissions
CAR description:	GreenCollar Climate Solutions shall apply the results of the ex-post monitoring of the baseline in the first monitoring period, in the case of doubt of the quality of the data used in the ex-ante.
Timeline for conformance:	Not applicable
Evidence to close CAR:	GCS has replaced the erroneous use of the term 'crediting period' on p. 38 and replaced it with the term 'monitoring period'. The intention is that where information used to develop the ex ante accounts can be

	improved by further on-ground project and/or reference area data this should be generated as part of the monitoring plan and applied to subsequent verification submissions. The baseline scenario stands but as the monitoring plan begins to provide more accurate data so the baseline accounts become more rigorous – primarily by reducing the variance in GHG accounts. This tighter accounting can then be applied to subsequent monitoring periods and to revision of initial monitoring period.
CAR Status:	**Closed**

CAR #:	**CAR 15/10**
Checklist reference:	5.2, 5.7, 5.14 Emissions, 7.2 Monitoring
CAR description:	GreenCollar Climate Solutions shall clearly explain how data collected during project monitoring feeds back into the methodological equations to calculate GHG reductions.
Timeline for conformance:	Not applicable
Evidence to close CAR:	GCS now explains in Step 8 which equations are applicable for use with monitored parameters. However, this section lacks a complete explanation of this process (see **OBS 38/10**).
CAR Status:	**Closed**

CAR #:	**CAR 16/10**
Checklist reference:	5.12 Emissions
CAR description:	GreenCollar Climate Solutions shall include provisions for the estimation of VCUs consistent with those of the VCS AFOLU Guidance.
Timeline for conformance:	Not applicable
Evidence to close CAR:	VCUs are calculated following VCS guidelines in equation 26: $VCU_{net\|LtPF} = \left(Credits_{total,t2\|LtPF} - Credits_{total,t1\|LtPF}\right) \cdot \left(1 - Bu_{\|IFM-VCS}\right)$ Prior to this equation, the number of credits associated with net project activities are calculated in equation 23: $GHG_{CREDITS\|LtPF} = GHG_{NET\|BSL} - GHG_{NET\|PRJ} - GHG_{LK\|LtPF}$ However, during the assessment it is not clear how time is incorporated into this equation. In previous equations, such as equation 20, time is denoted in the paragraph above the equation, so it is explicit that the equation is calculating the independent variable at a specific period of time. As equation 23 will be used to calculate ex post credits, and ultimately VCUs, there must be a mechanism to relate the calculated values of equation 23 to a specific period of time. During a conversation with GCS on August 12th, it was clarified that the parameters used in equation 23 are in fact estimated as a

	function of time (see equation 11), and hence time is considered in equation 23. Additional clarification was provided by GCS regarding the stepwise process of the calculation of the total number of VCUs to be issued. This was found by the audit team to be in conformance with the VCS standard.
CAR Status:	**Closed**

CAR #:	**CAR 17/10**
Checklist reference:	5.16 Emissions
CAR description:	GreenCollar Climate Solutions shall fully cite the VCS Tool for AFOLU Non-Permanence Risk and Buffer Determination when referring to the VCS risk analysis requirements.
Timeline for conformance:	Not applicable
Evidence to close CAR:	GCS have revised section 7.2 to cite the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination.
CAR Status:	**Closed**

CAR #:	**CAR 18/10**
Checklist reference:	5.17 Emissions
CAR description:	GreenCollar Solutions shall include instructions and/or guidance on updating all conversion factors and data used throughout the project lifetime.
Timeline for conformance:	Prior to approval
Evidence to close CAR:	GCS clarified with RA the component of this CAR that states *'it is important that the methodology include instructions and/or guidance on how to update conversion factors applied during the calculation of project activity emissions over the course of the project lifetime.* GCS have added a clause in the conceptual approach to encourage the use of new techniques for data measurement that become accepted as best practice.
CAR Status:	**Closed**

CAR #:	**CAR 19/10**
Checklist reference:	1.3 Eligibility, 6.1 Leakage
CAR description:	GreenCollar Climate Solutions shall present a clear methodology for the identification and quantification of activity shifting leakage.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology no longer includes the use of no activity shifting leakage as an applicability condition. In Step 5.1 on p.39 the methodology states:

	"*There may be no leakage due to activity shifting*." It should be noted that the use of the term "may" is non-binding, and as such this opening sentence is ambiguous. However, the methodology goes on to explicitly state: "*Where activity shifting occurs or a project proponent is unable to provide the necessary documentation at first and subsequent verification, the project shall not meet the requirements for verification. Therefore, the project shall be subject to the VCS conditions on projects which fail to submit periodic verification after the commencement of the project. Project proponents may optionally choose to submit a methodology deviation with their future verifications to address activity shifting leakage*." The methodology is now clear that if activity shifting leakage occurs during a project lifetime or the Project Proponent is unable to provide evidence that no activity shifting leakage occurs, the project is then subject to the VCS conditions on projects which fail to submit periodic verification, and as such the project would no longer receive credits. The methodology now clearly defines the process for those projects where activity shifting leakage occurs, or failure to prove otherwise,
CAR Status:	**Closed**

CAR #:	**CAR 20/10**
Checklist reference:	6.2 Leakage
CAR description:	GreenCollar Climate Solutions shall present a clear methodology for the identification and quantification of market effects leakage.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology submitted by GCS on August 13th includes a procedure to estimate market effects leakage in Step 5.2, with specific guidance on calculation of market effects in Box 2 on page 40. The outline procedure for the calculation of market effects leakage was found to be in conformance with the VCS 2007.1 standard.
CAR Status:	**Closed**

CAR #:	**CAR 21/10**
Checklist reference:	7.2 Monitoring
CAR description:	GreenCollar Solutions shall include in the methodology a detailed procedure to monitor and document the implementation of the project on land areas within the project boundary.
Timeline for conformance:	Not applicable
Evidence to close	The methodology does not include a clear, executable monitoring

CAR:	plan, but rather relies on project developers to develop a monitoring plan that meets identified criteria within the methodology (see findings from 7.2 regarding several ambiguous areas within the guidance). Section 7 of the methodology provides guidance for project developers, offering criteria with which verification bodies can assess project developer monitoring plans against.
CAR Status:	**Closed**

CAR #:	**CAR 22/10**
Checklist reference:	7.3, 7.4 Monitoring
CAR description:	GreenCollar Climate Solutions shall clearly define the application and use of sampling plots in both ex ante calculations and ex post monitoring.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The use of sampling plots is now better integrated into the equations.
CAR Status:	**Closed**

CAR #:	**CAR 23/10**
Checklist reference:	8.1 Data and parameters
CAR description:	GreenCollar Climate Solutions shall clearly explain how project developers should proceed in circumstances where data is unobtainable.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The methodology is developed where GHG from fossil fuels are optional, and can be conservatively excluded in the baseline scenario, and thus excluded from the project scenario as emissions are higher in the baseline. In the case where the project proponent cannot obtain proper data surrounding fossil fuel emissions, they would exclude fossil fuel emissions from their accounts.
CAR Status:	**Closed**

CAR #:	**CAR 24/10**
Checklist reference:	8.2 Data and parameters
CAR description:	GreenCollar Climate Solutions shall ensure that all equations in the methodology are mathematically correct.
Timeline for conformance:	Not applicable
Evidence to close CAR:	Although minor errors were noted throughout the methodology (see **OBS 36/10**), the equations are now mathematically correct.
CAR Status:	**Closed**

CAR #:	**CAR 25/10**
Checklist reference:	8.2 Data and parameters
CAR description:	GreenCollar Climate Solutions shall clearly derive all parameters used in equations embedded in the methodology (or if from the literature be clearly stated)
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology now includes an additional parameter table in the "*Data and Parameters used for monitoring*" section. The additional parameter table for $C_{DIST\_IL,i,t\|PRJ}$ describes the derivation of this parameter. The revised methodology now clearly defines the derivation or process for obtaining parameters used within the methodological equations.
CAR Status:	**Closed**

CAR #:	**CAR 26/10**
Checklist reference:	8.2 Data and parameters
CAR description:	GreenCollar Climate Solutions shall ensure that the equations within the methodology are linked throughout the methodological process, and follow a path to ultimately calculate the number of VCUs issued as a result of project activities at any given monitoring event.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The equations now flow together and thus the CAR can be closed. However, other issues persist with how the number of VCUs to be issued is calculated.
CAR Status:	**Closed**

CAR #:	**CAR 27/10**
Checklist reference:	8.2 Data and parameters
CAR description:	GreenCollar Climate Solutions shall consistently label all parameters, and consistently include definitions of all parameters used in equations.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised version of the methodology now consistently labels all parameters, and consistently includes definitions of all parameters used in equations.
CAR Status:	**Closed**

CAR #:	**CAR 28/10**
Checklist reference:	8.2 Data and parameters
CAR description:	GreenCollar Climate Solutions shall present the parameter descriptions in Appendix 1 and 2 of the methodology free of errors, and consistently labelled with the text of the methodology.
Timeline for	Not applicable

conformance:	
Evidence to close CAR:	The auditor's sample check of the parameter tables found no errors.
CAR Status:	**Closed**

CAR #:	**CAR 29/10**
Checklist reference:	11.1 Public review
CAR description:	GreenCollar Climate Solutions shall demonstrate how it has taken due account of all the public comments submitted during the VCS public comment period.
Timeline for conformance:	Not applicable
Evidence to close CAR:	During a meeting between GCS and RA in Washington D.C. on May 26th, 2010, the process for assessing stakeholder comments was described by GCS. During this meeting, GCS described to RA how the amendment presented with the previous version of the methodology was drafted, and how they addressed each of the stakeholder comments. At this meeting, the Rainforest Alliance requested additional evidence outlining how each of the issues raised during the public review were addressed, or refuted (with substantial evidence justifying why) by GCS. Along with the submission of the revised methodology, GCS has submitted supplementary evidence of how the addressed each of the concerns raised during the public review. This additional conversation and evidence provided by GCS provides clarification as to how each of the concerns raised during public review were addressed by GCS.
CAR Status:	**Closed**

CAR #:	**CAR 30/10**
Checklist reference:	1.1 Eligibility criteria
CAR description:	GreenCollar Climate Solutions shall present the scope and conceptual approach section free of any errors within the text that lead to ambiguity.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The scope of the methodology and conceptual approach has been significantly reduced to eliminate errors. The current scope is now clear and free of errors.
CAR Status:	**Closed**

CAR #:	**CAR 31/10**
Checklist reference:	3.1 Baseline approach
CAR description:	GreenCollar Climate Solutions shall define the geographic scope of the methodology.
Timeline for conformance:	Not applicable

Evidence to close CAR:	During a meeting with GCS in Washington D.C. on May 26th, 2010, it was discussed that the geographic scope of the methodology is not required to be defined, as this is required by the project developer (as defined in Step 2 of the VCS Tool for AFOLU Methodological Issues).
CAR Status:	**Closed**

CAR #:	**CAR 32/10**
Checklist reference:	5.1 Emissions
CAR description:	GreenCollar Climate Solutions shall include guidance on the selection of reference areas, ensuring that reference areas meet VCS AFOLU requirements.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology has eliminated much of the use of reference areas, and where reference areas are used, the methodology provides clear guidance on their use and applicability.
CAR Status:	**Closed**

CAR #:	**CAR 33/10**
Checklist reference:	3.3 Baseline approach, 5.1, 5.2, 5.7, 5.13 Emissions
CAR description:	GreenCollar Climate Solutions shall clearly present the calculation of carbon stock changes in the deadwood pool and fully explain any assumptions made in the expected deadwood trends.
Timeline for conformance:	Prior to approval
Evidence to close CAR:	Following the submission of the Draft Validation Report, GCS submitted guidance GCS received from the VCS regarding the appropriate omission of carbon pools when it is conservative to do so. RA has confirmed this interpretation with the VCS, and as such, has found that it is conservative in this case to omit emissions from deadwood pools in the project scenario. Additionally, clarification provided by GCS has resolved the audit team concerns of varying project area within baseline and project scenarios.
CAR Status:	**Closed**

CAR #:	**CAR 34/10**
Checklist reference:	5.1 Emissions
CAR description:	GreenCollar Climate Solutions shall include procedures for calculating the “planned timber harvest rate” that is applicable in all forest types that the methodology is applicable to.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology employs a new process for the calculation of timber harvest based on volume extraction. Furthermore, baseline

	emissions are averaged across the project lifetime to calculate the mean emissions, hence the previous concerns of the calculation of "planned timber harvest rate" are no longer an issue.
CAR Status:	**Closed**

CAR #:	**CAR 35/10**
Checklist reference:	5.1 Emissions, 5.4 Emissions
CAR description:	GreenCollar Climate Solutions shall provide clear guidance as to when literature values shall be used, when inventory values shall be used and what to do if suitable reference areas for data gathering cannot be found.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology provides guidance on the selection and use of literature values, and also specifically notes when inventory values should be used.
CAR Status:	**Closed**

CAR #:	**CAR 36/10**
Checklist reference:	5.1 Emissions
CAR description:	GreenCollar Climate Solutions shall provide clear guidance in the parameter tables as to how to measure parameters that are included in field inventories.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology provides clear guidance in the parameter tables as to how to measure parameters that are included in field inventories.
CAR Status:	**Closed**

CAR #:	**CAR 37/10**
Checklist reference:	5.2 Emissions
CAR description:	GreenCollar Climate Solutions shall conservatively estimate carbon sequestration in wood products.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology now assumes instantaneous release of all carbon not stored after 100 years in wood products. As this is summed and then averaged across the crediting period, as part of the calculation of baseline emissions, this assumption is determined to be an acceptable simplification.
CAR Status:	**Closed**

CAR #:	**CAR 38/10**
Checklist reference:	5.4, 5.6 Emissions

CAR description:	GreenCollar Climate Solutions shall refer to the baseline and projects scenarios clearly and correctly.
Timeline for conformance:	Not applicable
Evidence to close CAR:	The revised methodology refers to the baseline and project scenarios clearly and correctly.
CAR Status:	**Closed**

CAR #:	**CAR 39/10**
Checklist reference:	5.7, 5.10 Emissions
CAR description:	GreenCollar Climate Solutions shall provide the calculation steps for project developers to calculating carbon stock loses due to unanticipated events for all pools monitored.
Timeline for conformance:	Not applicable
Evidence to close CAR:	Step 4 of the revised methodology now clearly states that carbon stock loss from disturbance is not restricted to fires. This is in conformance with the requirements of the VCS. However, the revised methodology restricts carbon stock losses to only those areas that would not have been present in the baseline scenario (e.g. harvested areas). The carbon stock loses from burned biomass is calculated as a function of merchantable timber (see equation 18 on p.33). It is not clear how this method accounts for carbon stock losses from the entire project area. Following the calculation logic presented in Step 4.2 of the methodology, only those carbon stock losses in merchantable timber are being estimated. Furthermore, the same approach is taken for non-fire disturbance. Equation 21 in the revised methodology now correctly accounts for carbon stock losses from all disturbance types, however, as noted above only those carbon stock loses from biomass that were not present in the baseline scenario (e.g. harvested biomass) are included in carbons tock loss estimates. During December of 2010, Rainforest Alliance received clear guidance from the VCSA that it is acceptable to account for only those carbon stock loses within the project area that would have been logged within the baseline scenario. As such, the current version of the methodology is now in conformance with the clarification guidance Rainforest Alliance received from the VCSA.
CAR Status:	**Closed**

CAR #:	**CAR 40/10**
Checklist reference:	1.1, 1.3 Applicability
CAR description:	GreenCollar Climate Solutions shall provide applicability conditions

	that limit the use of the methodology to situations with well-documented, site-specific evidence that justifies the imminent, concrete and defensible forest harvesting planned and which more explicitly defines the evidence necessary for projects to establish legal right to harvest and intent to harvest, and the range of legal or recognized instruments, to sanction approval, permission, authorization, plans, or agreements.
Timeline for conformance:	Not applicable
Evidence to close CAR:	Discussions with the Methodology Developers have clarified the intent of specific language within the applicability conditions. Specifically, the Methodology Developer indicated that the use of the word "or" in 6th applicability condition does not imply the applicability condition is optional. After discussing this point with the Methodology Developers, the Audit Team has confirmed that it is clear that this does not imply this applicability condition is optional. Additionally, the 7th applicability condition regarding activity shifting leakage has been removed in the revised methodology. Although several points within the applicability conditions could be improved to avoid potential confusion amongst project developers, the revised applicability conditions no longer present a non-conformance regarding the VCS requirements for transparency.
CAR Status:	**Closed**

CAR #:	**CAR 41/10**
Checklist reference:	3.2 Baseline approach, 5.1, 5.4 Emissions, 8.2 Data and parameters
CAR description:	GreenCollar Climate Solutions shall present clear, transparent, and conservative methodology for the calculation of the net emissions reductions from project activities.
Timeline for conformance:	Not applicable
Evidence to close CAR:	Numerous revisions (see findings in Appendix B below) have been made to the methodology. These revisions now present a clear, transparent, and conservative process for the calculation of the net emissions reductions from project activities. It should be noted that numerous observations are made within this report that highlight areas for improvement within the methodology to aid in further clarifying the methodology.
CAR Status:	**Closed**

2.2.1 Observations

Note: Observations are issued for areas that the auditor sees the potential for improvement in implementing standard requirements or in the quality system. It is not mandatory for the Methodology Developer to address an observation.

OBSERVATIONS

OBS 01/10	Checklist reference: 1.1 Eligibility criteria
Observation: As plantations are included within the scope of the methodology, GreenCollar Climate Solutions should address plantations within the GHG calculations.	

OBS 02/10	Checklist reference: 1.3 Eligibility criteria
Observation: GreenCollar Climate Solutions should not include the specific requirements of the sampling framework and provisions on boundary definition in the applicability conditions.	

OBS 03/10	Checklist reference: 2.1 Project boundary
Observation: GreenCollar Climate Solutions should clearly explain how the project area is affected by changes in forest strata found during monitoring inventories.	

OBS 04/10	Checklist reference: 2.1 Project boundary
Observation: GreenCollar Climate Solutions should not include temporal requirements specific to monitoring activities in the discussion on project boundaries.	

OBS 05/10	Checklist reference: 3.1 Baseline approach
Observation: GreenCollar Climate Solutions should not include descriptions or references to non-tropical forests types within the methodology.	

OBS 06/10	Checklist reference: 3.3 Baseline approach
Observation: GreenCollar Climate Solutions should better explain or revise the approach proposed to estimate emissions from mobile sources in order to take into account the specific geographical circumstances of projects.	

OBS 07/10	Checklist reference: 4.1 Additionality
Observation: GreenCollar Climate Solutions should replace the term “using the current version” to “using the most recent version”.	

OBS 08/10	Checklist reference: 5.1 Emissions
Observation: GreenCollar Climate Solutions should clarify the statement explaining periodical ex-post adjustments to the baseline found on page 11 as it appears contradictory.	

OBS 09/10	Checklist reference: 5.1 Emissions
Observation: GreenCollar Climate Solution should incorporate annual increments in carbon stocks in the net annual change in carbon stocks as described in p. 12 in order to avoid confusion.	

OBS 10/10	Checklist reference: 5.1 Emissions
Observation: GreenCollar Climate Solutions should revise the explanation on how stratification should be carried out (p. 13) as it is confusing (particularly option a). As both options proposed are currently explained, they might lead to less precise estimates than actually stratifying the project area	

OBS 11/10	Checklist reference: 5.1 Emissions
Observation: GreenCollar Climate Solutions should clearly explain how it avoids double counting of standing dead wood in Eqn 6.	

OBS 12/10	Checklist reference: 5.3 Emissions
Observation: GreenCollar Climate Solutions should add parentheses to Eqn 37, as described in findings in section 5.3.	

OBS 13/10	Checklist reference: 5.5 Emissions
Observation: GreenCollar Climate Solutions should calculate $GHG_{net,t\mid LtPF}$ in Eqn 37 as a positive value to avoid confusion in the calculation of VCUs in Eqn. 41.	

OBS 14/10	Checklist reference: 6.1 Leakage
Observation: GreenCollar Climate Solutions should define the term baseline agent.	

OBS 15/10	Checklist reference: 6.1 Leakage
Observation: GreenCollar Climate Solutions should be more explicit in how the leakage estimates would change depending on who the baseline agent was (Government, private, known, unknown etc).	

OBS 16/10	Checklist reference: 6.1 Leakage
Observation: GreenCollar Climate Solutions should include a definition of "*de minimis*" in the context of illegal logging in the country to avoid confusion.	

OBS 17/10	Checklist reference: 8.1 Data and parameters
Observation: GreenCollar Climate Solutions should reference all tables in the appendices within the text of the methodology whenever the parameter is used.	

OBS 18/10	Checklist reference: 8.1 Data and parameters
Observation: GreenCollar Climate Solutions should clearly explain how BCEF should be selected and applied in the calculation of GHG emission reductions from project activities.	

OBS 19/10	Checklist reference: 1.1 Eligibility criteria
Observation: GreenCollar Climate Solutions should eliminate repetition within the text between the applicability and eligibility sections.	

OBS 20/10	Checklist reference: 1.3 Eligibility criteria
Observation: The “boundary definition” should not be included in the applicability section.	

OBS 21/10	Checklist reference: 2.1 Project boundary
Observation: GreenCollar Climate Solutions should address internal errors in Table 2 on p. 16.	

OBS 22/10	Checklist reference: 3.3 Baseline approach
Observation: GreenCollar Climate Solutions should include the project proponent’s historical fuel consumption records as an option in Step 3.4.	

OBS 23/10	Checklist reference: 5.1 Emissions
Observation: GreenCollar Climate solutions should include time (years) marked on the X axis of Figure 3, so that the reader can understand clearly the annual approach to carbon accounting.	

OBS 24/10	Checklist reference: 5.2 Emissions
Observation: GreenCollar Climate Solutions should clarify the text on p.36 step 3.4 in the last two paragraphs.	

OBS 25/10	Checklist reference: 5.4 Emissions
Observation: GreenCollar Climate Solutions should describe those project activities that are not allowed in step 4.	

OBS 26/10	Checklist reference: 5.4, 5.6 Emissions
Observation: GreenCollar Climate Solutions should use the term net GHG emissions in a way that could not lead to confusion.	

OBS 27/10	Checklist reference: 5.20 Emissions
Observation: GreenCollar Climate Solutions should identify the sources of uncertainty and refer to ‘errors’ and ‘uncertainties’ consistently.	

OBS 28/10	Checklist reference: 6.2 Leakage
Observation: GreenCollar Climate Solutions should reference the latest VCS tool for market leakage or contact the VCS for more details about how the tool should be used.	

OBS 29/10	Checklist reference: 5.5 Emissions
Observation: GreenCollar Climate Solutions should provide clear guidance on how positive and negative numbers flow through the methodology, and describe parameters appropriately.	

OBS 30/10	Checklist reference: Project boundary 2.1
Observation: GreenCollar Climate Solutions should move the discussion of the geographic boundaries of market leakage to the leakage section.	

OBS 31/10	Checklist reference: Baseline approach 3.2, Additionality 4.1
Observation: GreenCollar Climate Solutions should correctly reference the VCS Tool for Demonstration and Assessment of Additionality in footnote 17.	

OBS 32/10	Checklist reference: Baseline approach 3.2
Observation: GreenCollar Climate Solutions should ensure that the procedure for the selection of the baseline conditions is in conformance with the applicability criteria of the methodology.	

OBS 33/10	Checklist reference: Emissions 5.1, 5.7, Data and parameters 8.2
Observation: GreenCollar Climate Solutions should correct the multiple minor changes noted in the attached electronic version of the methodology (LtPF Methodology_V3-1-1).	

OBS 34/10	Checklist reference: Emissions 5.1
Observation: GreenCollar Climate Solutions should clearly explain the assumptions within the methodology behind applying average carbon stock values to account for annual carbon stock fluctuations resulting from planned management activities.	

OBS 35/10	Checklist reference: Emissions 5.7, Monitoring 7.2
Observation: GreenCollar Climate Solutions should expand on the guidance presented in Step 8, elaborating, and more clearly explain the process that ex post calculations shall use.	

OBS 36/10	Checklist reference: Emissions 5.7
Observation: GreenCollar Climate Solutions should provide additional guidance on how to construct the project scenario, particularly on how the results of the PRAs shall be used to estimate ex ante illegal logging emissions throughout the crediting period.	

OBS 37/10	Checklist reference: Monitoring 7.1, 7.3, 7.4
Observation: GreenCollar Climate Solutions should include clear guidance to project developers as to how to execute monitoring plans.	

OBS 38/10	Checklist reference: 5.3, 5.5 Emissions
Observation: GreenCollar Climate Solutions should strongly consider adding a clarification paragraph to Step 4, describing the use of the GHG calculation equations for both ex ante and ex post calculations.	

OBS 39/10	Checklist reference: 5.1, 5.2 Emissions
Observation: GreenCollar Climate Solutions should consider the ramifications of assuming constant linear carbon sequestration from estimated regrowth in the baseline scenario.	

OBS 40/10	Checklist reference: 5.6 Emissions
Observation: GreenCollar Climate Solutions should provide guidance on the selection of historic natural disturbance data to be used in ex ante estimates.	

OBS 01/11	Checklist reference: 2.1 Project boundary, 5.1 Emissions, 8.1 Data and Parameters
Observation: GreenCollar Climate Solutions should correct minor typographical spelling errors identified during the fifth assessment.	

2.3 Actions Taken by Company Prior to Report Finalization

Action taken following 01 October 2010 assessment:

Following the submission of the 01 October 2010 assessment report, GCS pursued validation with the second validation body, as required by the VCS Double Approval Process. During this time, Rainforest Alliance communicated directly with the VCSA to obtain additional clarification on the remaining open CAR (CAR 39/10). In December 2010, Rainforest Alliance received clear guidance on the VCSA, allowing for the closure of CAR 39/10. During this time, the second validation body completed the second validation assessment of v3-1 of the methodology. Following the second validator assessment, multiple minor corrections were made to the methodology (as outlined in Det Norske Veritas (DNC) Report No. 2010-9415 Revision No. 02). The revised methodology was then assessed by Rainforest Alliance as part of the fifth assessment of the methodology.

Actions taken following 27th August 2010 assessment:

GreenCollar Climate solutions submitted a revised version three of the methodology, 'LtPF Methodology_V3-1.1'. In addition, GCS also submitted document describing the changes made in response to the CARs from the first Rainforest Alliance assessment report and the public comments were also provided, as well as, a word document version of the methodology demonstrating all changes to the previous version in track changes. Finally, on the 26th of May 2010, GCS met with Rainforest Alliance to review the existing corrective action requests from the second assessment as well provide an overview of the proposed changes in the third version of the methodology.

3 AUDIT METHODOLOGY

3.1 Assessment Team

Assessor(s)	Qualifications
Jared Nunery, MSci. Rainforest Alliance Smartwood Program Carbon Technical Specialist Participated in the following assessments: 01 March 2010 20 April 2010 30 August 2010 01 October 2010 27 January 2011	Jared has led the technical review of multiple validation assessments for the VCS and CCBA on three different continents. In addition he has participated in two Improved Forest Management methodological reviews for the VCS. Before joining the Rainforest Alliance, Jared worked as a member of the Carbon Dynamics Lab at the University of Vermont, where he conducted research on the effects of forest management on carbon sequestration. Jared has published multiple scientific articles on the impacts of forest management practices on forest carbon dynamics. Jared has presented research and guest lectured on the topic of forest management and forest carbon dynamics at over a dozen scientific conferences and universities both within the USA and abroad. Jared has a B.S. in Environmental Sciences from the University of Vermont and earned his M.Sc. in Forestry from the University of Vermont. Jared has extensive experience in forest stand dynamics, forest carbon dynamics, forest mensuration, GHG quantification, forest growth and yield modelling, and wildlife habitat conservation. In addition Jared is a certified lead auditor with the Climate Action Reserve for Forest and Urban Forest projects.
Adam Gibbon, MSci. Rainforest Alliance Technical Specialist, Climate Initiative Participated in the following assessments: 01 March 2010 20 April 2010 30 August 2010 01 October 2010 27 January 2011 (RRA)	Adam has led the technical climate change related of ten CCBA validations that are either completed or currently underway. He has also led five VCS methodology assessments, one VCS validation and been involved in one Plan Vivo verification. Adam is a qualified lead auditor for the Climate Action Reserve, and has been appointed to the Plan Vivo Technical Advisory panel. Adam has trained over 100 people in Bali, Rwanda, Spain, and Vietnam in AFOLU project auditing and project development. Recipients of the training included Rainforest Alliance auditors, government officials, private consultants and NGO representatives. Adam has been the lead author of recent Rainforest Alliance publications such as, “Guidance on coffee carbon project development using the (CDM) simplified agroforestry methodology”, and “Forest Carbon Project Feasibility Study in Quang Tri Province, Vietnam”. He has also had published work peer reviewed scientific journals, for example; Gibbon *et al., 2010;* Ecosystem Carbon Storage Across the Grassland–Forest Transition in the High Andes of Manu National Park, Peru.

	Before joining Rainforest Alliance Adam worked at Oxford University as a researcher. His research emphasized the potential of carbon markets to finance sustainable management of forest resources. Adam earned a distinction on the Environmental Change and Management MSc. Program at Oxford University, winning prizes for his dissertation and overall performance. He was awarded the Sir Walter Raleigh Scholarship at Oriel College, Oxford. He graduated with a first class degree from Durham University, with a BSc in Natural Sciences, specializing in Geology, Chemistry & Geography.
Manuel Estrada Consultant Participated in the following assessments: 01 March 2010 20 April 2010 30 August 2010	Manuel Estrada is an independent consultant, who was the lead negotiator for Mexico on Clean Development Mechanism and land use and forestry issues from 2001 to 2007. His work as a consultant has covered the areas of national and international climate change policy, carbon trading advisor, validation/auditing of both project methodologies and national greenhouse gas emissions inventories and training, development of national inventories and elaboration of carbon offset project proposals in various sectors. Manuel was part of the VCS AFOLU working groups on Afforestation/Reforestation and REDD and was a co-author of the Nested Approach to REDD. He also has worked on the development of a standard under the VCS for offset projects in peatlands in Europe and South East Asia and on methodologies for such projects.
Jeff Hayward, MSci. Rainforest Alliance Manager, Climate Initiative **(Senior Report Reviewer)** **VCS AFOLU Expert in REDD & IFM** Reviewed the following assessments: 01 March 2010 20 April 2010 30 August 2010 01 October 2010 27 January 2011	Jeff is based in Washington, DC, though his work has a worldwide focus, especially in Asia, Africa, Latin America, leading development of a cross-program initiative including carbon verification, best practices and standards for climate mitigation and adaptation, climate-oriented capacity building, and facilitation of carbon forestry and agroforestry projects. For nearly six years he managed the Rainforest Alliance forest certification programs in the Asia-Pacific region from Jakarta, Indonesia. In forest certification and carbon verification, he has conducted over 25 forest management assessments and/or audits and over 60 chain-of-custody assessments and/or audits. He has led forest certification awareness training courses in Malaysia, Indonesia, Japan, Fiji, and China. Prior to working for the Rainforest Alliance, he conducted silviculture and ecology research for the University of British Columbia's Alex Fraser Research Forest in Canada. In Oregon, he worked for the U.S. Bureau of Land Management in forest inventory and timber sale administration. For three years he was with the U.S. Peace Corps serving as a community forester in Guatemala in an agroforestry and conservation of natural resources program. Jeff earned an MSci in forestry, (Univ. of British Columbia, Canada); and a B.A. in Latin American development with a specialization on forestry (Univ. of Washington, USA).

3.2 Methodology Assessment Process

The methodology assessment was conducted from Rainforest Alliance offices and those of the contracted consultants. The assessment consisted of a desk evaluation, along with phone calls and correspondence with the methodology developers.

3.3 Document Review

Document Date	Title, Author(s), Version
January 2011	Proposed Methodology for Improved Forest Management Conversion of Logged to Protected Forests, GreenCollar Climate Solutions, LtPF Methodology V 3-2
17 November 2010	Assessment Report: Methodology for “Improved Forest Management through Conversion of Logged to Protected Forests” Report No. 2010-9415 Revision No.02

Appendix A: PROPONENT CONTACT AND DETAILS

1 Contacts

Methodology name:	Improved Forest Management Conversion of Logged to Protected Forests
Proponent:	GreenCollar Climate Solutions
Type of organization:	Technical Advisory
Contact person, Title:	Mr James Schultz - Director
Address:	Lvl 13, 84 Pitt St, Sydney, 2000, NSW
Tel/Fax/Email:	+61 2 9994 8033 james.schultz@greencollargroup.com.au
Billing contact:	Olivia Burton - olivia.burton@greencollargroup.com.au
Methodology developer:	GreenCollar Climate Solutions
Type of organization:	Technical Advisory
Contact person, Title:	Same as above
Address:	Same as above
Tel/Fax/Email:	Same as above

Appendix B: DETAILED ASSESSMENT FINDINGS TO THE STANDARDS

NOTE: *Italics* within the findings box below represent quotes from the methodology or VCS documents.

Findings from the first assessment report on the 1st of March 2010 have been removed from this report to in order to eliminate those findings that are no longer applicable to this review.

1 Eligibility criteria

The methodology shall contain eligibility criteria which are appropriate and adequate.

1.1 The methodology shall be for a project type which falls within one or more of the eligible AFOLU project categories as Defined in the VCS Tool for AFOLU methodological issues (See: I. Scope and Applicability)

Findings from Second Assessment 20 April 2010	The revised version of the methodology expands the eligibility of forest types beyond tropical forests, following the suggestion of a stakeholder comment received during the VCS public review. The increased eligibility to all forest types presents new challenges for the methodology developers, as the methodology will now be applicable to all geographic areas where forests exist. For example, globally there are a huge range of silvicultural/harvesting methods/techniques which at present the simplified models in step 3.2.1 (page 31) fail to fully represent. (See **CAR 34/10**). The revised methodology now clearly states under the scope section (p.2) that the methodology is only applicable for: "… estimating and monitoring greenhouse gas (GHG) emissions of project activities that protect unlogged forests that would be logged in the absence of carbon finance" The methodology describes the project eligibility on p.13, step 0. The language used in the first bullet point causes confusion because it implies forest lands are already managed, when it would appear that it is talking about the baseline scenario in which forest land *will* be managed. Additionally, the following minor errors were noted by reviewers: On p.2 the methodology states: "*Generally speaking, protecting forests from timber harvest reduces emissions caused by harvesting (i.e., protects carbon stocks) and maintains the carbon stock as the forest continues to grow."* It is not clear if this should say "increases the carbon stock" rather than maintains. On p.2 the methodology states: *"The description of harvesting intent forms the basis of the baseline scenario*

	for greenhouse gas accounting in the project case." This sentence may be confusing the baseline and the project scenario. On p.3 the methodology states: *"…ex-ante estimates of net greenhouse gas emissions – where net implies net of carbon sequestered in wood products –resulting from planned timber harvesting activities in the baseline scenario in the baseline scenario…"* It is not clear why this sentence does not include a reference to the changes in carbon stocks such as regrowth. As written, it is confusing if this step only includes the wood products pool. (**CAR 30/10**) Generally, the language in the methodology was found to be difficult to follow and this report highlights a number of occasions where ambiguity arises.
Findings from Third Assessment 30 August 2010	In Part 1, section 4 (applicability) (page 8) the methodology describes the relevant applicability conditions for the methodology. In addition to those requirements of VCS IFM LtPF projects, and IFM projects in general, the methodology outlines the following applicability conditions: • Forest management in the baseline scenario must be planned timber harvest; • Under the project scenario forest use is limited to activities that do not result in commercial timber harvest or forest degradation; • Planned timber harvest must be estimated using forest inventory methods that determine allowable offtake as volume of timber (m^3 ha^{-1}); • The boundaries of the forest land must be clearly defined and documented; • Baseline condition cannot include conversion to managed plantations; • Baseline scenario, project scenario and project case cannot include wetland or peatland; and • There may be no leakage through activity shifting to other lands owned or managed by project participants outside the bounds of the VCS carbon project. However, ambiguity within this section leads to a non-conformity within the VCS requirements for transparency: 1) The applicability criterion specifying that the boundaries of the forest land must be clearly defined is a project elements, and not specific applicability criteria. The definition of the project boundary seems more appropriately defined in Step 1.1 of the methodology. 2) In the 6th applicability criterion, it is not clear what the difference between project scenario and project case is. It is not clear if this is meant to say the project area, which would seem more appropriate. 3) In the last applicability criterion, the use of the word "or" implies that this

	is optional, which is not appropriate for this applicability criterion. (**CAR 40/10**) 4) The definition for IFM projects is given (though it is referred to as the definition for IFM LtPF projects). The actual definition for IFM LtPF projects provides two types of projects. As this methodology is only applicable to forests that have never been logged, only one of the two IFM LtPF project types would qualify. This distinction is not explicit as the specific IFM LtPF project definition is not provided.		
Findings from Fourth Assessment 01 October 2010	Discussions with the Methodology Developers have clarified the intent of specific language within the applicability conditions. Specifically, the Methodology Developer indicated that the use of the word "or" in 6th applicability condition does not imply the applicability condition is optional. After discussing this point with the Methodology Developers, the Audit Team has confirmed that this does not imply this applicability condition is optional. Additionally, the 7th applicability condition regarding activity shifting leakage has been removed in the revised methodology. Although several points within the applicability conditions could be improved to avoid potential confusion amongst project developers, the revised applicability conditions no longer present a non-conformance regarding the VCS requirements for transparency.		
Findings from Fifth Assessment 27 January 2011	The revised version of the IFM Conversion of Logged to Protected Forests v 3-2 (January 2011) is now in conformance with this requirement._		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

1.2 The methodology shall be compatible with VCS Tool for AFOLU methodological issues in the statement of eligibility conditions. Specifically;

i. "Documented evidence shall be provided in the VCS PD that no ARR or ALM project areas were cleared of native ecosystems within the ten years prior to the proposed VCS project start." (II. Step 1, paragraphs 6)

ii. "In the case of REDD projects, the boundary of the REDD activity shall be clearly delineated and defined and include only land qualifying as "forest" for a minimum of 10 years prior to the project start date." (II. Step 1, paragraphs 7)

Findings from Second Assessment 20 April 2010	These criteria deals with issues specific to REDD and ARR project types. Since this methodology is for IFM, all applicability condition related issues will be discussed in section 1.3 below. The methodology states that (Applicability, p.10): *"For all instances of planned timber harvest IFM projects, there must be a legal permit to harvest, a forest concession to harvest or an immediate site-specific forest management agreement. The rights to forest management must be demonstrated by documentary proof of legal permissibility for timber harvest,*

	intent to harvest, government approval or request for approval for the commencement of harvest, and a description of the timber resource. This proof must be issued by the relevant (governmental) regulatory body that has designated, sanctioned or approved for forest management the project area (or areas).” The request for approval for the commencement of harvest does not represent the legal approval by government authorities to manage the forest, and therefore shall not serve to demonstrate compliance with this VCS condition. In this same respect, the methodology further states that: *“Where the intent to harvest is demonstrated by a forest management agreement, this must be issued by a relevant government body, define a legal allocation of rights to a forest timber resource, and include a plan for forest management that includes a definition of the spatial extent of the forest, the volume of the timber resource to be extracted and a description of harvesting practices.” (page 10)* Forest management agreements may imply different rights and responsibilities depending on the conditions set by the government issuing them, and therefore referring specifically to such agreements in the methodology could lead to situations where it could no longer be applicable. Likewise, by not providing specific guidance for other types of agreements or permits, the methodology reduces the scope of its applicability and/or could lead to ambiguous interpretations of the VCS requirements. (**CAR 02/10**)		
Findings from Third Assessment 30 August 2010	The methodology now fully quotes the requirement from the VCS that “*Only areas that have been designated, sanctioned or approved for such activities (e.g., as logging concessions or plantations) by the national or local regulatory bodies are eligible for crediting under the VCS Improved Forest Management (IFM) category”,* however, it is only mentioned once, as part of the general applicability conditions for all IFM projects. In the rest of the document, all references to this requirement refer to “legal” requirements, “legal” permit, etc. Methodology authors should make sure to maintain this requirement when revising the text. In particular, the first applicability condition reading “*Forest management in the baseline scenario must be planned timber harvest*” does not specify that the baseline scenario must be timber harvest on areas designated, sanctioned or approved by the national or local regulatory bodies for such activities (**OBS 33/10**).		
Findings from Fourth Assessment 01 October 2010	No change from previous review.		
Findings from Fifth Assessment 27 January 2011	No change from previous review.		
Conformance	Yes ☒	No ☐	N/A ☐

CAR/OBS	**OBS 33/10**

1.3 The methodology shall contain appropriate applicability conditions (e.g. project type, national and regional circumstances / policies, data and resource availability, environmental conditions, past land-use and land use changes, purpose of the activity and practices) that adequately constrain the use of the methodology such that any assumptions made or data inputs required later in the methodology are appropriate.

Findings from Second Assessment 20 April 2010	The applicability conditions and related sections were found to contain a number of issues that combine to make it unclear which project could and which projects could not use this methodology. The reasons for the lack of clarity in the applicability conditions of the current version of the methodology are: incomplete or inconsistent definitions, use of vague language, unnecessary repetition, weak levels of requirements for demonstration of objective evidence necessary to establish planned timber harvest (logging), and ambiguously worded exclusions. Addressing these issues and their related CARs will allow applicability conditions to be presented that meet the requirements of **CAR 40/10**. <u>Definitions:</u> Throughout the methodology, the lack of clearly defined terminology creates ambiguity. In particular, project activities are vaguely described throughout the methodology, which does not allow the reader to determine if it will be applicable to a determined situation or project idea, or to ensure that such activities will not result in degradation during the crediting period. For instance, the definition of “traditional forest use” leads to a subjective determination of what uses are traditional and which are not (for instance, “local consumption” and “rates that supply local domestic needs” “commercial timber harvest” may have different meanings in different regions). A number of key terms in the Applicability section (p.10) are not provided. For example, “legal permit to harvest” and “request for approval for commencement of harvest”. The methodology attempts to clearly define the applicability of the methodology by stating on p.10, section 4, bullet 3, that "evidence supporting land-use assertion" is required. The conditions for what is reasonable evidence that project proponents can provide to establish the forest area would be logged is not well-defined. Later on in the methodology, for example in step zero (page 13) and in step two (page 17) more detail is provided regarding what evidence is required. This information must be clearly presented in the applicability conditions, and it will then not be necessary to keep repeating the requirements this throughout the rest of the methodology. Similarly, with the, "evidence with regard to logging concession pre-existing carbon credits" what the methodology states is reasonable, but remains vague. There is not sufficient guidance provided on what constitutes the type of

	evidence that would be required, which is of particular importance for a methodology that aims to have a global geographic scope. Additionally, some of the definitions included elsewhere in the new version of the methodology have implications on applicability conditions: • The definition of "disturbance" does not include anthropogenic disturbances, thus implying that the methodology does not cover them. • The definition of "traditional forest use" leads to a subjective determination of what uses are traditional and which are not (for instance, "local consumption" and "rates that supply local domestic needs" "commercial timber harvest" may mean different things to different people or in different contexts), as well as to what are "degraded forest or timber resource", as the methodology does not contain a definition of what is a "degraded forest and timber resource". • The definition of "forest management agreement" contradicts what is said on page 2 regarding the legal nature of such agreement. While in p.2 the document points out that: *"This methodology is designed to apply in situations where forest land has legal sanction for timber harvest and where the owner of the right to harvest acts as project proponent to undertake forest protection as an alternative to harvesting (…) The right to harvest must be supported by intent to harvest. This will usually be in the form of a legal forest management agreement, forest management plan or a timber harvest plan…"* The definition of "forest management agreement" states that: *"Refers to a legal allocation of rights to a forest timber resource that includes an agreement or plan for forest management..."* Thus, in the first case the legal right to harvest is prior and different from the management plan (the "intention", although the difference is not so clear), while in the second the management agreement includes both the right and the plan. This repetition and lack of clear definition causes confusion and must be clarified. Other definitions relevant to this section were found to be inconsistent with those provided by the VCS AFOLU Guidance (Glossary, page 40) (e.g. "forest"). (**CAR 03/10**) The definition of Forest provided in the methodology which may create challenges in the application of the methodology, given that different countries have different definitions of Forest within the IPCC constraints. If the project definition of a Forest (following the guidance in this methodology which defines a Forest in section 2) and a country's definition of a Forest do not match this could cause confusion. (**CAR 05/10**)

	Applicability conditions: The applicability conditions must provide clear instructions as to which projects are able to use this methodology and these conditions must be in line with all applicable VCS guidance. The auditors found a number of issues with the applicability conditions. The methodology frequently uses vague language, which is understandable to enable flexibility, however this creates uncertainty in interpreting requirements, e.g. • "usually privately or government owned…", (p.10) but what if it is not?; • "…legal permit to harvest, a forest concession to harvest *or* an immediate site specific management agreement…"(p.10) Forest management agreements are defined and more guidance on their requirements are provided below, yet of the other two options, if they are exercised, then no guidance is given. The way this text is presented creates a possible suite of options, which doesn't bind the application conditions. Also, the final two paragraphs of text (p.10) are presented outside the bulleted list of conditions, and it is not evident if there is the same importance conveyed. • "timber harvest plan *should* follow local best practice…" (p.18) Paragraph 14 of the VCS guidance for AFOLU states that common practice *must* be considered in setting baselines. Due to the ambiguity, it is difficult to assess in what circumstances the methodology could be used and, especially for a global scope, how inclusive or exclusive a project can be in presenting the different types of objective evidence one would need, in different jurisdictions, to establish and document the legal right to harvest and intent to harvest, and thus document that the applicability conditions have been achieved. The methodology is repetitive in stating some of the applicability conditions, yet some criteria that do appear to be applicability conditions (See the last two sub-bullet points on p.13) are presented in different sections. For an example of repetition compare the first paragraph on page 17 with the third paragraph on page 17, the third to last paragraph on page 17, the second to last paragraph on page 10 and the third bullet point on page 13. The repetition is unnecessary and causes confusion. (**OBS 19/10**) The fact that the project proponent has made a request for approval for the commencement of harvest does not represent the legal approval by government authorities to manage the forest, and therefore shall not serve to demonstrate compliance with this VCS condition (see p.10). In this same respect, the methodology offers non-bulleted text stating that: *"Where the intent to harvest is demonstrated by a forest management agreement, this must be issued by a relevant government body, define a legal allocation of rights to a forest timber resource, and include a plan for forest management that includes a definition of the spatial extent of the forest, the volume of the timber resource to be extracted and a description of harvesting*

	practices." (page 10) Forest management agreements may imply different rights and responsibilities depending on the conditions set by the government issuing them, and therefore referring specifically to such agreements in the methodology could lead to situations where it could no longer be applicable. Likewise, by not providing guidance for other types of agreements, permissions, approvals, and authorizations, the methodology reduces the scope of its applicability and/or could lead to ambiguous interpretations of the VCS requirements. (**CAR 02/10**) It is unclear why 'project boundary' is included as an applicability condition. The boundary of the project refers to more than just the spatial elements under the VCS standard, and it is the project area not just the forest land which needs to be well defined and documented. In the previous version, project boundary more broadly focused on those projects with management plans. However, as written in version 2.0 of the methodology, the boundary definition is not an applicability condition. (**OBS 20/10**) <u>Exclusions:</u> On p.10, the methodology discuses the applicable exclusions in this methodology, stating: "*Fertilizer use is an exclusion in this methodology."* It is not clear what this exclusion refers to and in which scenario it is applicable. As written, the application of this exclusion is unclear. (**CAR 04/10**)
Findings from Third Assessment 30 August 2010	Applicability conditions (found on page 8 of the methodology) specify the required conditions for projects intending to use this methodology. Although several minor observations have been noted (see **CAR 40/10**). One of the applicability conditions reads "Baseline scenario, project scenario and project case cannot include wetland or peatland" it is not clear what is the difference between the last two (if any), and this wording leads to think that there are actually 3 scenarios involved in the methodology. Moreover, the text should make clear that this exclusion refers to the project *area* and not the *scenario.* (see **CAR 40/10**) Another applicability condition states that "There may be no leakage through activity shifting to other lands owned or managed by project participants outside the bounds of the VCS carbon project". This condition, which appears in the text as optional ("may") is actually a VCS AFOLU requirement that must be demonstrated by project developers. Therefore, if methodology authors decide to keep it as an eligibility condition, it shall be reworded to reflect this obligation. (see **CAR 19/10**) Likewise, auditors found that one other eligibility conditions represent guidance and therefore do not belong in this section, namely: • The boundaries of the forest land must be clearly defined and documented;" (see **OBS 33/10**)

	Regarding the text on the legal right to harvest, auditors found that, as in previous reviews, the specification that only areas that have been designated, sanctioned or approved for such activities (e.g., as logging concessions or plantations) by the national or local regulatory bodies are eligible for crediting under the VCS Improved Forest Management (IFM) category is not mentioned, and in its place the text mentions that "*The legal right to harvest must be issued by a relevant government body, define a legal allocation of rights to a forest timber resource, and include a plan for forest management that includes a definition of the spatial extent of the forest, the volume of the timber resource to be extracted and a description of harvesting practices*". The Applicability Conditions, Section 4, do include the VCS text that specify that areas that have been "designated, sanctioned or approved...", however this is not incorporated into the methodological definition of legal right to harvest. This link is critical to be in conformance with the VCS 2007.1 standard.		
Findings from Fourth Assessment 01 October 2010	As noted in 1.1 above, the revised methodology no longer includes the applicability condition related to activity shifting leakage. Furthermore, clarifications received from the Methodology Developers have confirmed that potential ambiguities related to the revised text of the applicability conditions in Section 4 of the revised methodology do not lead to a non-conformance with the VCS requirements for transparency.		
Findings from Fifth Assessment 27 January 2011	The revised version of the IFM Conversion of Logged to Protected Forests v 3-2 (January 2011) is now in conformance with this requirement._		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

2 Project boundary:

The methodology shall contain an appropriate and adequate approach for the definition of the project's physical boundary and sources and types of gases included.

2.1 The methodology shall provide a methodological procedure for identifying and assessing GHG sources, sinks and reservoirs (SSRs) controlled, related to, or affected by the project. The methodology shall include guidance for the identification and assessment of GHG sources, sinks and reservoirs as being:

i. controlled by the Project Proponent:

ii. related to the GHG project; or

iii. affected by the GHG project. (VCS 2007.1, S6.2).

iv. if necessary, explain and apply additional criteria for identifying relevant baseline GHG sources, sinks and reservoirs; and compare the project's identified GHG sources, sinks and reservoirs with those identified in the baseline scenario. (VCS 2007.1, Section 6.2)

Findings from	The methodology has been revised to address previous issues highlighted in

Second Assessment 20 April 2010	the previous report completed by Rainforest Alliance. However, Step 1.2..2 p.15 concludes with the following statement: *"Baseline projections shall be annual and be available for each proposed future verification date."* As no reference to the baseline calculation section is given, it is still not clear if the baseline will be adjusted during the "annual" projections of the baseline. As written, the text is not clear if the monitoring data is input into the baseline calculations to re-calculate the baseline at each monitoring period. (**CAR 06/10**) <u>Crediting period:</u> GCS recognized that the methodology had confused the terms "crediting period" and "monitoring period". This confusion has been removed from Step 1.2. The revised methodology now clearly defines the crediting period in section 1.2.1 on p.14 following guidance from the VCS. The methodology states: *"The project crediting period shall be between 20 and 100 years. The duration of the project activity/crediting period shall be reported in the VCS-PD."* <u>Sinks, sources, reservoirs:</u> Step 1.3 of the methodology identifies the appropriate carbon pools to be included and excluded from the project boundary. These pools follow the requirements of IFM projects under VCS Guidance for AFOLU Projects. However, it should be noted that minor errors in Step 1.4 Greenhouse Gasses – p.16. This table is described in the methodology as: "*Table 2: Gases considered from emissions by sources other than resulting from changes in stocks in carbon pools"* Multiple errors were found in this table: • Using the term "gases" is not specific and creates ambiguity as to the actual items described in the table; • the title of the table mixes emission sources with changes in carbon stocks; • including fossil fuel combustion is poorly justified by the fact that logging is the baseline activity, since excluding emissions from this source in the baseline would be conservative; and • it is not clear how excluding burning of biomass because no burning happens in the project scenario is conservative; it does make sense that excluding it because burning happens in the baseline scenario is conservative. (**OBS 21/10**)
Findings from	<u>Step 1.1 Geographic boundaries</u>

Third Assessment 30 August 2010	Issues identified in previous reviews in this section of the methodology have been addressed. However, at the end of it a sentence reads "Following the VCS definition of market leakage the geographic boundaries for leakage from market effects are those of the country in which the project area occurs". Such sentence does not fit into this section and should be moved to the one on leakage. (see **OBS 33/10**) <u>Step 1.2 Temporal boundaries</u> In sub-step 1.2.2 (Duration of the monitoring periods), the last sentence reads "Baseline projections shall be annual and be available for each proposed future verification date". As noted in the previous review, as no reference to the baseline calculation section is given, it is still not clear if the baseline will be adjusted during the "annual" projections of the baseline. As written, the text is not clear if the monitoring data is input into the baseline calculations to re-calculate the baseline at each monitoring period. Additionally this text is misplaced and should be located in the section on baseline projection (**CAR 06/10**) <u>Step 1.3 Carbon Pools</u> On page 12, table 2 shows the carbon pools included or excluded from the project boundary. Some inconsistencies with the VCS AFOLU program update of May 2010 were found, namely: • The above ground biomass carbon pool currently appears as a unique pool whilst it shall be divided into "tree" and "non-tree". This distinction is relevant since the former shall be included, whilst the latter shall not, according to the VCS AFOLU program update. (**OBS 36/10**) • Likewise, according to table 2, the below ground biomass and soil carbon pools shall be excluded, whereas the VCS AFOLU update states that both are optional. However, it should be noted that the VCS now defines (see 24 May 2010 Program Update) optional as: "*pool is optional: it shall be included if its carbon stock is significantly reduced by the project6; and may be included if its carbon stock is significantly increased by the project."* The methodology does not include these pools, nor provide a procedure for calculating these pools if found to be significant. As such it is not clear how those projects where soil carbon increases in the project scenario was found to be significant, would be able to use this methodology. As there is no restrictions related to this in the applicability criteria, it is not clear how such projects would proceed to accurately calculate carbon stocks following the guidance of VCS. However, additional clarification regarding this issue was sought by RA to the VCS. The VCS confirmed that it is not the intention of the program update to require methodologies to test for significance of optional carbon pools. The VCS recognized the ambiguity within the

	text, and confirmed that this is not an intended requirement, and as such there is no non-conformance with the 24 May 2010 VCS Program Update. Step 1.4 Greenhouse Gases This step shall be updated to reflect the provisions stated in the VCS AFOLU program update, particularly that "Eligible gases: Projects must account for any significant sources (sinks are optional) of carbon dioxide (CO2), nitrous oxide (N2O) and methane (CH4) that are reasonably attributable to project activities. As outlined in Step 3.10 of the Tool for Methodological Issues, certain GHG sources may be considered insignificant and do not have to be accounted for. Other GHG sources may be considered insignificant and do not have to be accounted for if together such omitted decreases in carbon pools and increases in GHG emissions amount to less than 5 percent of the total CO2-eq benefits generated by the project". Moreover, the multiple errors pointed out in the last review concerning table 3 are still present (see **OBS 21/10**)		
Findings from Fourth Assessment 01 October 2010	Sub-step 1.2.2 of the revised methodology has been changed to remove potential ambiguity regarding the updating of the baseline throughout the project lifetime. The revised methodology now reads: "*Baseline projections are calculated ex-ante and are not adjusted through-out the project lifetime."* This was also reiterated on page 18 of the methodology. Additionally, on p.19 the methodology now includes specific guidance regarding the treatment of time (t*) throughout the course of the project lifetime. The revised methodology now clearly and explicitly states the use of baseline projections throughout the entire project lifetime. Table 2 on p.12 of the methodology has also been updated to reflect the VCS requirements for IFM LtPF project carbon pools. It should be noted that in the current version of the methodology, formatting errors within Table 2 are present; these errors should be corrected in the next revision of the methodology. (**OBS 33/10**)		
Findings from Fifth Assessment 27 January 2011	Formatting errors in table 2 have been corrected. However it should be noted that Box 1 on p.16 includes a list of requirements for timber harvest plan for each parcel. In letter "e" on p.16 there appears to be a typographical error "specie/stratum-selection" should be "species/stratum-selection".		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 01/11**		

2.2 The methodology shall be compatible with the VCS Tool for AFOLU methodological issues, providing steps to define the project boundary in terms of:

i. The geographic boundary within which the project will be implemented;

ii. The project crediting period;

iii. The sources and sinks, and associated types of GHGs (i.e., CO_2, N_2O, CH_4), the project will affect; and

iv. The carbon pools that the project will consider, in accordance to the particular project type and Table 1, in step 3 of the VCS Tool for AFOLU Methodological Issues and ensuring they are appropriate in the context of the applicability conditions and the determination of project GHG emissions and baseline net GHG emissions.

(II. Step 2 Determine the Project Boundary and 3 Determine the Carbon Pools)

Findings from Second Assessment 20 April 2010	As noted in the previous review, the carbon pools included in the methodology are consistent with those mandated for IFM LtPF projects under the VCS. The revised methodology includes the same carbon pools. One note, carbon pools should be defined in section two of the revised methodology. The term "pool" is used in the definition of carbon stock, but is not defined in section 2. (see **CAR 03/10**)		
Findings from Third Assessment 30 August 2010	See findings from 2.1 above, regarding additional clarification received from the VCS on the 24 May 2010 VCS Program Update. As written the methodology is now in conformance with this requirement.		
Findings from Fourth Assessment 01 October 2010	No change from previous review.		
Findings from Fifth Assessment 27 January 2011	No change from previous review.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

2.3 The methodology shall, provide steps to account for N_2O emissions, unless insignificant[6], if any nitrogen fertilizer and/or manure are applied, or N-fixing species planted, during the crediting period. Note that; Reductions of N_2O and/or CH_4 emissions are eligible for crediting if in the baseline scenario the project land would have been subject to cattle grazing and/or nitrogen fertilization, and/ or if fire would have been used to clear the land or constitutes a cause of forest degradation. (II. Step 3 Determine the Carbon Pools, paragraphs 10 & 11)

[6] Certain GHG sources may be considered "insignificant" and do not have to be accounted for if together such omitted decreases in carbon pools and increases in GHG emissions amount to less than 5% of the total CO_2-eq benefits generated by the project.

Findings from Second Assessment 20 April 2010	N_2O emissions related to fertilization activities are not included in the GHG quantification, as noted on p.6, hence this criterion is not applicable to this methodology.		
Findings from Third Assessment 30 August 2010	No change from previous version of the methodology.		
Findings from Fourth Assessment 01 October 2010	No change from previous review.		
Findings from Fifth Assessment 27 January 2011	No change from previous review		
Conformance	Yes ☐	No ☐	N/A ☒
CAR/OBS	No CAR/OBS issued		

3 Baseline approach:

3.1 The baseline scenario shall set out the geographic scope as applicable to the methodology. (VCS 2007.1, Section 6.3)

Findings from Second Assessment 20 April 2010	The methodology is no longer applicable to only tropical forests. GCS changed the applicability of the methodology to all forest types, by removing the world tropical following a comment received from Brinkman & Associates Reforestation Ltd (note **OBS 05/10** from the previous report is no longer relevant due to the change in the scope of the methodology). However, the methodology does not now specifically define the geographic scope, leaving ambiguity as to if this methodology is applicable in all regions. (**CAR 31/10**)		
Findings from Third Assessment 30 August 2010	During a meeting with GCS in Washington D.C. on May 26th, 2010, it was discussed that the geographic scope of the methodology is not required to be defined, as this is required by the project developer (as defined in Step 2 of the VCS Tool for AFOLU Methodological Issues.		
Findings from Fourth Assessment 01 October 2010	No change from previous review.		
Findings from Fifth Assessment 27 January 2011	No change from previous review.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

3.2 The methodology shall provide a procedure for the selection of most conservative baseline scenario. This shall reflect what most likely would have occurred in the absence of the project. (VCS 2007.1, Section 6.3)

In doing so, the methodology shall provide guidance for the selection or establishment of criteria and procedures for identifying and assessing potential baseline scenarios considering the following:

i. the project description, including identified GHG sources, sinks and reservoirs;

ii. existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project;

iii. data availability, reliability and limitations;

iv. other relevant information concerning present or future conditions, such as

v. legislative, technical, economic, socio-cultural, environmental, geographic, site specific and temporal assumptions or projections.

Findings from Second Assessment 20 April 2010	In response to **CAR 08/10** GCS stated: "*GCS have chosen to define the baseline in the methodology as timber harvest described by a legal permit to harvest, forest concession to harvest or an immediate site-specific forest management agreement. The baseline scenario is applied to the project area on the basis of a timber harvest plan either existing or developed from these legal descriptions of the timber resource using current best practice for timber harvest.* *Under the applicability conditions of a LtPF methodology confined to the unlogged to protected forest sub-type, timber harvest according to the conditions of the legal permission to harvest is the realistic baseline scenario*." Although it may be likely that timber harvest according to the conditions of the legal permission to harvest is the most likely scenario, the VCS mandate that methodologies include provisions for assessing and then selecting the most plausible baseline scenario. The baseline assessment should lead to the selection of the most likely baseline, via an assessment of all possible scenarios. For example, in section 6.2 of VCS 2007.1 it is stated that, *"Methodologies shall be informed by a comparative assessment of the project and its alternatives in order to identify the baseline scenario. Such an analysis shall include, at a minimum, a comparative assessment of the implementation barriers and net benefits faced by the project and its alternatives." (p.18)* The methodology currently has no provisions for the assessment of baselines that are not logging. Tools to conduct a baseline assessment already exist; see for example the CDM tools for the selection of baseline. However,, it should be noted that when using the latest CDM additionality tool, a required by the methodology, an assessment of the alternative landuses would be required (but this link is not made clear in the methodology) (**CAR 08/10**)
Findings from	In response to **CAR 08/10**, GCS stated that "*Step 2.1 Selection of Baseline*

Third Assessment 30 August 2010	(New p14) now requires project proponents to "identify realistic and credible land-use scenarios that would have occurred on the land within the proposed project boundary in the absence of the IFM project activity". And then "use the current VCS Tool for Demonstration and Assessment of Additionality to assess which of the baseline alternatives shall be excluded from further consideration."" The methodology now provides guidance for the assessment of alternative baselines through the use of the VCS tools. However, whilst the text refers to the VCS additionality tool, the footnote provides a link to the CDM additionality tool. (**OBS 31/10**) The revised methodology defaults first to the VCS project specific guidance and requirements for IFM LtPF projects. Step 2.1 of the revised methodology includes the following text: "*The project proponent shall select or establish criteria and procedures for identifying and assessing potential baseline scenarios in accordance with rule 6.3 VCS (2007.1) and the specific requirements for IFM projects in the VCS Tool for Methodological Issues (paragraph 14 and footnote 13)*[7] *when constructing the baseline."* Additional guidance is provided for projects below this section. By defaulting to the VCS guidance for IFM projects, the methodology assures conformance with the VCS standard regarding the development of IFM LtPF baselines. Both options lead to the development of a timber harvest plan, which is described in Box 1 (page 15). The first paragraph of the Box mentions that "harvesting in the form of a timber harvest plan forms the basis of the baseline scenario for greenhouse gas accounting". The Box also states that the timber harvest plan must: "b) demarcate all non-harvest areas within the forest based on legally required exclusions for environmental features such as slope, swamp areas or conservation buffers; c) divide the harvestable forest into annual operating areas (referred to throughout this methodology as land parcels); " According to these provisions, within the project area there may be forested areas that would not be harvested, and which, in consequence, would not be divided into land parcels. This is very relevant, since all the calculations included in the methodology are based on these land parcels, implying that the carbon stock changes and emissions happening in non-harvest areas are not accounted for, even though they are within the project boundaries. Consequently, the authors of the methodology should clarify how are these areas accounted for and provide guidance on how to include them in the calculations. **(OBS 38/10)**

[7] http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf

	Moreover, the mention of swamp areas is not consistent with the applicability conditions, since they state that "Baseline scenario, project scenario and project case cannot include wetland or peatland" (page 8). **(OBS 32/10)**		
Findings from Fourth Assessment 01 October 2010	Footnote 18 on p.14 of the revised methodology correctly cites the VCS Tool for the Demonstration and Assessment of Additionality. The text within section 2.1 has also been revised to correctly cite the full name of this tool. The previous findings related to the identification of non-eligible project areas and the application of the timber harvest plan in project calculations (see **OBS 32/10 and 38/10**) are still relevant.		
Findings from Fifth Assessment 27 January 2011	The revised version of the IFM Conversion of Logged to Protected Forests v 3-2 (January 2011) is now in conformance with this requirement.		
	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

3.3 In defining the process for developing the baseline scenario, the methodology shall ensure that the selection of assumptions, values and procedures will help to ensure that GHG emission reductions or removal enhancements are not overestimated. (VCS 2007.1, Section 6.3)

Findings from Second Assessment 20 April 2010	On p.24, step 3.1.3: the methodology states: *"Deadwood stock estimates are valid in the baseline (treated as constant) for 10 years, after which they must be re-estimated from new field measurements."* However, the Deadwood pool would be expected to increase in the baseline scenario (with added input from harvesting operations), so it is not clear why it would be kept constant. It is not clear why taking new measurements of deadwood after 10 years is required, or where these results feed in to. Under a logging scenario the Deadwood pool would be expected to increase, however the methodology does not model this. (**CAR 33/10**) Furthermore, it is not clear how double counting of carbon in above-ground biomass and in standing deadwood is avoided by the methodology. For example, in equation 5, the carbon stock per unit area in all pools is calculated by summing $C_{ab,l,p\mid t=o}$ and $C_{dw,l,p\mid t=o}$. However, $C_{ab,l,p\mid t=o}$ is defined as the carbon stock per unit area in the above-ground biomass pool. By definition above-ground biomass pool would include live and dead biomass, so adding the carbon stock stored in dead wood would be double counting this pool.**(CAR 12/10)**
Findings from Third Assessment 30 August 2010	The revised version of the methodology adopts a new approach to estimating changes in the dead wood pool through which the change in carbon stock in the dead wood pool in stratum i in land parcel p will be calculated as the difference between the total carbon stock of the harvested biomass and the carbon stock of the extracted timber (page 22). This approach, however, fails to account for the dead wood pool in non-harvested areas and in those areas not considered as "parcels" (i.e. which will not be harvested), and does not

	consider pre-harvesting dead wood originated from other causes than harvesting. Moreover, the methodology does not provide guidance on how to produce ex-ante estimates of the dead wood pool in the project scenario or on how to measure and monitor it ex post, or an explanation of why it shall be assumed to be insignificant. It is not clear how this is conservative, since by omission the project emissions from this pool are assumed to be zero, and it is not in line with the VCS AFOLU Guidance, which states that "projects undertaking RIL and LtPF must account for the dead wood pool in their baseline and project case documents" (page 18). Following the submission of the Draft Validation Report, GCS submitted guidance GCS received from the VCS regarding the appropriate omission of carbon pools when it is conservative to do so. RA has confirmed this interpretation with the VCS, and as such, has found that it is conservative in this case to omit emissions from deadwood pools in the project scenario. Additionally, clarification provided by GCS has resolved the audit team concerns of varying project area within baseline and project scenarios.		
Findings from Fourth Assessment 01 October 2010	No change from previous review.		
Findings from Fifth Assessment 27 January 2011	No change from previous review.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

3.4 The methodology shall be compatible with the project type specific rules on baseline development specified in the VCS Tool for AFOLU methodological issues (See: II. Step 4, Establish a Project Baseline, paragraphs 13 - 16)

Findings from Second Assessment 20 April 2010	In response to **CAR 10/10** GCS stated: "*Following discussion of this issue with RA, GCS have described the methodology as though it would apply to the case where the project proponent may not be a timber operator and so would not have a history of timber harvest operations."* In the conceptual approach on p.2, the methodology states" "…it is expected that project proponents will be individuals, companies or organizations that are either resource owners (including indigenous land owners) or their agents."

	It is not clear how the defined scope of the methodology would not also include project proponents with a history of harvesting. As stated in the previous report, VCS AFOLU documents request project participants to provide the following information to prove that they meet minimum baseline standards for IFM projects, considering all the possible project proponents and circumstances allowed by the applicability conditions. The VCS requires project-developers using project-based approach for establishing baseline to follow specific guidelines. In order to clarify how these rules should be interpreted, the Rainforest Alliance held a call with Naomi Swickard of the VCS on 12 April 2010. The VCS Tool for Methodological Issues, paragraph 14 and footnote 13, contain specific rules that IFM projects must follow when constructing the baseline: *"14. In the case of IFM project activities, project developers using a project-based approach (rather than a performance/benchmark standard)[12] for establishing a baseline shall provide the following information to prove that they meet minimum acceptable standards:* *a. A documented history of the operator (e.g., operator shall have 5 to 10 years of management records to show normal historical practices). Common records would include data on timber cruise volumes, inventory levels, harvest levels, etc. on the property[13];* *b. The legal requirements for forest management and land use in the area, unless verifiable evidence can be provided demonstrating that common practice in the area does not adhere to such requirements; and* *c. Proof that their environmental practices equal or exceed those commonly considered a minimum standard among similar landowners in the area.* *The baseline for the IFM project is then the management practices projected through the life of the project, satisfying at a minimum the three requirements mentioned above.* *Footnote 12: See Additionality section of VCS 2007.1 for description of how a Performance Test versus Project Test may be applied under the VCS.* *Footnotes 13: For new management entities with no history of logging practices in the project region, the baseline should reflect just the common practices and legal requirements. However, if the common practice is unsustainable and unsustainable practices contravene the mission of the implementing entity then a sustainable baseline is the minimum that can be adopted. For projects focused on stopping logging or reducing the impact of logging, where the implementing entity takes over ownership of a property specifically to reduce forest management emissions, then the project baseline may be based on the projected management plans of the previous property owners (i.e., the baseline shall represent what would have most likely occurred in the absence of the carbon project.)"*

	In the first line of the first paragraph where project developers are referenced this should in fact read project "proponents" (this is a mistake in the VCS documentation, VCS documentation should only ever referred to the project proponent and never to a project developer, this error will be addressed in future versions of the VCS standard.). The definition for project proponent comes from ISO 14064:2 and is the "individual or organization that has overall control and responsibility for a greenhouse gas project." In paragraph 14a, there is an assumption that the 'operator' is the same organisation as the project proponent. In cases where the project proponent has taken ownership of the property specifically to reduced forest management emissions then the second half of footnote 13 should be referred to, the baseline should be based on the projected management plans of previous property owners. In this case, it will be necessary for the project proponent to demonstrate in the PD that they took control of the land within improved forest management project in mind. Paragraphs 14b and 14c are criteria that apply to the setting of the baseline. For example, a baseline must not have harvest levels above the legal threshold unless it can be demonstrated that this is common practice in the area (and would not contravene the mission of the operator). It is not clear how these specific guidelines for IFM projects are considered in this methodology. (**CAR 10/10**) Furthermore, in p.18 Step 2.2 Timber harvest plan, the methodology states: *"The timber harvest plan should follow local best practice for timber harvest and the timber resource volumes and extraction quotas defined in the legal permit to harvest, forest concession to harvest or immediate site-specific forest management agreement."* Although the methodology has good intentions, this is not in compliance with the minimum baseline standards for VCS IFM projects, which explicitly states that environmental practices (and not practices for timber harvest) should equal or exceed those commonly considered a minimum standard among similar landowners in the area. (**CAR10/10**)
Findings from Third Assessment 30 August 2010	The revised methodology defaults first to the VCS project specific guidance and requirements for IFM LtPF projects. Step 2.1 of the revised methodology includes the following text: "*The project proponent shall select or establish criteria and procedures for identifying and assessing potential baseline scenarios in accordance with rule 6.3 VCS (2007.1) and the specific requirements for IFM projects in the VCS Tool for Methodological Issues (paragraph 14 and footnote 13)*[8] *when constructing the baseline."* Additional guidance is provided for projects below this section. By defaulting to

[8] http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf

	the VCS guidance for IFM projects, the methodology assures conformance with the VCS standard regarding the development of IFM LtPF baselines.		
Findings from Fourth Assessment 01 October 2010	No change from previous review.		
Findings from Fifth Assessment 27 January 2011	No change from previous review.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

3.5 The methodology shall estimate the baseline net GHG emissions and removals for each year of the proposed crediting period. (II. Step 4, Establish a Project Baseline, paragraph 17)

Findings from Second Assessment 20 April 2010	The methodology contains provisions to estimate baseline net GHG emissions and removals for each year of the crediting period.		
Findings from Third Assessment 30 August 2010	No change from previous review.		
Findings from Fourth Assessment 01 October 2010	No change from previous review.		
Findings from Fifth Assessment 27 January 2011	No change from previous review.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS issued		

4 Additionality:

4.1 The methodology shall contain an appropriate and adequate methodological procedure for determining whether the project is additional, and demand sufficient information to be presented in the PDD such that the additionality can be validated by a third party. (VCS 2007.1, Section 6.4)

Findings from Second Assessment 20 April 2010	The methodology states: *"The project proponent shall test the additionality of the project using the*

	current CDM Tool for Demonstration and Assessment of Additionality" This is an example of point in the methodology where greater clarity could be added to increase the clarity of the methodology by future project developers. In the previous report, it was suggested in **OBS 07/10** that this should be changed to "using the most recent version", and GCS responded that this was replaced in the revised methodology as suggested. However, this was not replaced in the revised methodology.		
Findings from Third Assessment 30 August 2010	The methodology states that "The project proponent shall use the current VCS "Tool for Demonstration and Assessment of Additionality" in AFOLU Project Activities". Similar to the comment in previous reviews, "current" should be changed to "most recent" version of the Tool. Moreover, the footnote in this sentence links to the CDM additionality tool instead of to the VCS tool. (**OBS 31/10)**		
Findings from Fourth Assessment 01 October 2010	As noted in section 3.2 above, the footnote reference as well as the text within Step 2.1 has been revised to accurately cite the VCS Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities.		
Findings from Fifth Assessment 27 January 2011	No change from previous review.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5 Emissions:

This section is divided into ex-ante and ex-post emissions calculations. The ex-post emissions will be calculated as a result of the monitoring which is assessed in section 7 below. There is also a separate section which assesses the specific requirements as stated in the VCS documentation.

Ex – ante emissions calculation

5.1 The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs for the baseline scenario (ex-ante). (VCS 2007.1 6.5.3)

The assessment should consider:

i. The choice of algorithms/formulae and/or models used and correctness of their application (e.g. mathematical deficiencies, inconsistencies in calculus of dimensions).

ii. The appropriateness (adequacy, consistency, accuracy and reliability) of the parameters provided by the methodology.

iii. The appropriateness of procedures on how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.

iv. Any data gaps.

Findings from Second Assessment 20 April 2010	Use of Reference Area On p.17, step 2, Baseline Selection and Additionality: the methodology describes two methods for estimating carbon emissions in the baseline scenario, • (A) modelling of the forest management agreement or • (B) the use of a reference area. However, the methodology is not clear how the choice of method should be made. These two methods are not clearly distinguished in the later sections of the methodology. In general, it is still not clear why and when a reference area is used. Another example where the use of reference area is unclear can be found on p. 39 Step 3.4.2 Baseline scenario greenhouse gas emissions from transport vehicles, the methodology states: *"This methodology allows the use of either an energy-based or distance-based accounting approach for all greenhouse gas species emitted from fossil fuel combustion in mobile sources. Fuel consumption will be estimated by accessing annual records of fuel purchased and allocated to transport vehicles in a geographically defined reference area in the same forest region where harvesting has occurred no earlier than 10 years from the commencement of the project."* It is not clear if the reference region referred to in this section is the same one used to revise the baseline ex-post, and, if not, what criteria should be used to determine this second reference region. The use of reference regions and reference areas is confusing, and may lead to interpretation issues on account of lack of clarity. (**CAR 11/10**) Additionally, reference areas are also discussed in STEP 3 - Baseline Scenario

	Greenhouse Gas Emissions on p.20, where the methodology states: "*A reference area (or areas) is selected where timber harvest has been undertaken according to local or regional practices equivalent to those proposed in the site-specific timber harvest plan. Justification must be provided in the VCS-PD that the reference area (or areas) are representative of timber harvest as described in the baseline scenario for the project."* There is a lack of guidance on how representative sample areas should be selected, and insufficient safeguards to ensure that baseline data derived from reference areas meets VCS guidance (for example, paragraph 14 in the VCS AFOLU guidance) (**CAR 32/10**) On p.36, Step 3.4 Baseline scenario greenhouse gas emissions from timber harvesting activities, the methodology states: *"Fuel consumption will be estimated by either:* *a. accessing annual records of fuel purchased and allocated to machinery/equipment in a geographically defined reference area in the same forest region where harvesting has occurred no earlier than 10 years from the commencement of the project; or* In some cases, the project proponent may be the harvester, in which case it is not clear why the project proponent records are not included as an option to estimate fuel consumption. Moreover, it is not clear why the annual records are not required to represent harvesting operations similar to those planned and sanctioned in the baseline case – the methodology does not make this distinction and only takes into account the duration of such operations. (**OBS 22/10**) <u>Internal Errors Within the Baseline Quantification Section</u> Internal errors within the methodology create confusion in the interpretation of the methodological process. On p.20, STEP 3 - Baseline Scenario Greenhouse Gas Emissions, the methodology states: *"Ex-ante baseline estimations are therefore used in both the ex-ante and ex-post estimation of net carbon stock changes and GHG emission reductions."* This sentence is unclear and appears to be contradictory with information presented elsewhere. It is not clear why there is a justification for the monitoring of reference areas if the ex-ante baseline estimations will be also used for ex-post estimations. (**CAR 11/10**).

	Calculation of the planned rate of harvest: On p.31, section 3.2.1 Planned timber harvest rate, the parameter used in equation 21 ($R_{i,p\mid BSL}$) is calculated. This parameter is used to calculate the annual change in carbon stocks in all pools in the projected baseline, and is calculated based on information from the forest management plan. The parameter $R_{i,pIBSL}$ in equation 21 is said to represent, "*the proportion of standing biomass volumes in the stratum i to be removed each year during harvesting period from land parcel p* ..." however, when equations 22 and 23 which feed into equation 21 are considered, this description of the parameter does not appear correct. In equation 23 the parameter $r_{i,pIBSL}$ is calculated based on the area covered by the stratum that is to be harvested in a land parcel divided by the total area of the land parcel. The value therefore represents a proportion of the land parcel that is to be harvested. However when this parameter is described beneath equation 22 it is described as being a factor representing the proportion of the stratum that is to be harvested. The second bullet point under step 3.2.1 is for a, "species/stratum selective logging regime". The equations below reference stratum, given that in many forests species are dispersed and do not form monoculture blocks which could easily be divided into species-specific stratum, it is not clear how species-specific selective logging could be handled by the methodology. Furthermore, it is not clear how the, "area selective logging regime" method will gather data from a harvest plan. As the methodology is now applicable in all forest types, it is not clear how the methodology procedural guidance for the calculation of timber harvest rate will apply to all silvicultural prescriptions. For example, in northeastern north America, a common silvicultural practice is single-tree selection systems, where a variety of species are harvested following a predetermined diameter distribution. This harvest may cross strata (depending on how the project defines strata), and would not results in a complete removal of an entire strata. It is not clear how the equations presented in section 3.2.1 could accommodate this silvicultural prescription. (**CAR 34/10**) One of the stakeholder comments highlighted potential improvements in Figure 3 on p.33 (see Brinkman & Associates Reforestation Ltd.). It is understood that Figure 3 is for illustrative purposes. It is also understood that increases in biomass due to regrowth would begin immediately after harvesting period, yet in the figure regrowth does not begin until sometime after the end of the harvesting period. The diagram would benefit from having the years marked on the X axis, so that the reader can understand clearly the annual approach to carbon accounting. (**OBS 23/10**) Selection of parameters: On p.32, step 3.2.2: equation 25 states that there will be increases in biomass in all forests which are not harvested, this does not account for the fact that some forests may be in equilibrium. If the biomass increase has been

	measured within the project area then this would be acceptable, however, if no measurements have been taken to assume that the forest is increasing in biomass may not conservative (dependent on how increased sequestration through growth and increased emissions from harvesting that growth balance out). In addition, there is little guidance provided on how biomass increase data for, "all pools" would be gathered from literature sources if actual project area data was not used. The methodology does not provide clear guidance on when to derive values from the literature, and when to use inventory measurements. For example, on p.20 the methodology states: "*Carbon stock change in the baseline scenario shall be established from the inventory data used to generate the planned timber harvest schedule and current IPCC values for regrowth or on the basis of monitoring performed on a reference area, or areas, that have undergone planned timber harvest."* In this section the methodology is giving guidance that either literature values or inventory values can be used, but it does not dictate when either of these values should be used. (**CAR 35/10**) <u>Guidance in parameter tables:</u> In the parameters table on p.62, the parameter measurement procedure for $\Delta C_{regrowth,\,i,\,p}$ implies that clinometers alone can be used to measure this parameter. This also applies to the parameter table for $\Delta C_{growth,\,i,\,p}$ on p.61. Another example of unclear guidance in the parameter tables can be seen on p.58 in the parameter table for DBH. Here the table states: "Typically measured 1.3m aboveground. Measure all trees above some minimum DBH in the sample plots. The minimum DBH varies depending on tree species and climate; for instance. the minimum DBH may be as small as 2.5 cm or as high as 20 cm." However, the methodology does not provide guidance as to when to use the different minimum DBH. (**CAR 36/10**). An example of how this can cause confusion or errors within calculation can be seen on p.22 Step 3.1.2, where in step 1, it is not clear how the minimum DBH should be selected. The DBH selected must be appropriate for the BCEF used. In addition, the trees that are selected for biomass quantification here, must be compatible with the calculations later in the methodology that determined the amount of biomass removed at harvest events (see calculation steps in step 3.2.1, page 31 onwards).
Findings from Third Assessment 30 August 2010	<u>Step 3.1 Calculation of carbon stocks in commercial timber volumes</u> The methodology mentions that it is acceptable to use pre-existing forest inventory data for this purpose, provided that the pre-existing data: a) represents the project strata; b) is not more than 10 years old; and

c) where forest inventory data is more than 10 years old, that the volume estimate derived from the pre-existing data has been validated with limited sampling within the project area.

It is not clear how the quality of the inventory will be guaranteed if the pre-existing data is not more than 10 years old, since in this case validation through sampling or any other means is not required by the methodology. The revised methodology requires no validation of inventory data less than 10 years old, hence a project using 9 year old inventory data that was very poor quality could use this poor data to set the baseline for their carbon stock estimates. This is not a conservative approach to estimating baseline carbon stocks. (**CAR 41/10**)

The methodology goes on to state that "Estimation of the merchantable volume of trees must be based on locally derived allometric equations or yield tables. If locally derived equations or yield tables for each species are not available it is acceptable to use relevant regional, national or default data" (page 19). However, no guidance is provided on which specific sources of these regional, national or default data are acceptable, or on how to assess the quality of data so as to ensure that it is reliable. Guidance is provided in the parameter tables on p.49 of the methodology, however, as this is not referenced in this section, it is difficult to know what guidance the methodology provides on the selection of allometric equations. (**OBS 33/10**)

Step 3.4 Change in carbon stocks due to forest regrowth after harvest

Following equation 9 and the text that precedes it (page 22), "the carbon sequestration in the baseline resulting from forest regrowth after timber harvest up to year t is equal to the forest regrowth rate multiplied by the number of years since timber harvest multiplied by the area of each stratum in each land parcel". This implies that the regrowth rate is constant, which does not reflect the fact that such rate varies over time as the trees grow and could lead to unrealistic estimates of carbon stock changes in the baseline. In particular, the use of default IPCC values to project linear growth for projects that have a 100 year crediting period with not sequential rotations, would likely result in a gross overestimate of carbon sequestration from forest regrowth. (**OBS 39/10**)

Step 3.5 Calculation of baseline scenario greenhouse gas emissions from change in carbon stocks

The text introducing equation 10 states that "The net carbon stock change to be converted to emissions is equal to the carbon stock change as a result of timber harvest plus the carbon stock change resulting from conversion and retirement of wood products minus carbon sequestration from forest regrowth after harvest". Although the text does not specify it, the net carbon stock change covers the whole crediting period (as deducted from equation 11 and the text preceding it). However, to this point the methodology has not provided detailed guidance on how to project the effects of the management plan on

	carbon stocks along the crediting period, i.e., the methodology focuses on this aspect only at the parcel level, but does not explain how to "map" what happens every year in each parcel and in non parcelled areas to produce an overview of how carbon stocks and emissions behave as a whole in the project area each year. This situation is worsened by the fact that the methodology does not contain tables to facilitate the management of data. The ambiguity within the calculation of carbon stocks within the methodology should be clarified. (**OBS 38/10**) The text preceding equation 11, and equation 11 itself, also suffer this problem, as it states "In order to generate the annual carbon stock change in the baseline scenario, the total net change in carbon stocks across all parcels is divided by the crediting period. This annual net change in carbon stocks is multiplied by the time elapsed since the start of the project activity to determine the net change in carbon stock across all parcels in the baseline scenario since the start of the project activity". This method assumes that changes in carbon stocks in all the parcels in the project area are equal year after year, which is not the case, since in the same year some of them could be undergoing harvesting while others regrow and maybe some others are still intact. Each one of these phases represents different annual carbon stock changes, and the total carbon stock changes across the project area depend on how many of the parcels it contains are in each one of such phases and on the changes in carbon stocks in non parceled areas. The assumption that averaging carbon stocks across the crediting period will account for annual fluctuations is not clearly explained in the methodology. (**OBS 34/10**)
Findings from Fourth Assessment 01 October 2010	<u>The revised methodology now includes footnote 22 on p.19, which states:</u> "*Standard quality control / quality assurance procedures for forest inventory including field data collection and data management shall have been applied to the forest inventory assesment. Sampling data and methods shall be available for verification. Sample sizes shall have been sufficient to ensure inventory estimates are within the 90% confidence intervals. "* This footnote provides guidance regarding the quality assurance specification of inventory less than 10 years old. The guidance provided is general, and requires interpretation from the DOE as well as the Project Developer. However, the guidance provided in this footnote does provide the minimum level of specific requirements needed by inventory data in order to be able to be validated by a DOE, and as such is now in conformance with the VCS standard requirements. It should be noted that a typo in this footnoted regarding the spelling of "assessments" should be corrected. The findings from the previous report related OBS 33/10, 34/10, 38/10, and 39/10 are still applicable to the version 3-1.1 of the revised methodology.

Findings from Fifth Assessment 27 January 2011	The findings from the previous review are still relevant. It should be noted that the spelling error in footnote what is now footnote 23 is still present. (**OBS 01/11**)		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 34/10** **OBS 38/10** **OBS 39/10** **OBS 01/11**		

5.2 The methodology shall contain procedures that result in a *conservative* estimation of the sum of the baseline emissions within the project boundary that would have occurred in the absence of the proposed VCS project activity (ex-ante), taking into account the uncertainties associated with the data and parameters used. In addition, the procedure shall be designed such that it can be *carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study*.

Findings from Second Assessment 20 April 2010	The revised methodology has an improved overall structure. GCS has added Figure 1 to illustrate the process (note observations described below), as well as section two which provides a hierarchical process, demonstrating the flow of the methodology. Significant ambiguity remains as to how monitoring measurements feed back into the accounting modules (see **CAR 15/10**). The issues found in Part 2 – Step-by-step Methodology Description are described below: Regarding STEP 1 – *Project Boundaries and Scope* the methodology states: *"…provides guidelines for defining the geographical and temporal boundaries of the project and lists the GHG emissions sources and sinks to be included" (p.11)* It is not clear why this section does not mention pools instead of sinks. Additionally, it is not clear why both STEP 3 – *Baseline Scenario Greenhouse Gas Emissions* and STEP 4 – *Project Scenario Greenhouse Gas Emissions* do not also mention changes in carbon stocks. Regarding STEP 8 – *Project Monitoring* the methodology states: *"…provides guidelines for the implementation of a monitoring plan and the use of monitored parameters to generate revised ex-post estimates of greenhouse gas emission reductions." (p.11)* This sentence does not appear to be clear. Monitored parameters are not used to generate revised ex-post estimates of GHG emission reductions, but rather to revise the baseline emissions ex-post and changes in carbon stocks and estimate the project's performance in these two aspects.

	Lastly, several confusing points were found in Figure 1 on page 12 • The role of monitoring is not clearly represented, as the figure gives the impression that monitoring starts in Step 1 "project boundaries and scope" and then reappears in the accounting modules – therefore, it is not clear at which Step the monitoring plan is designed, and when implementation is monitored. • It does not differentiate between ex-ante and ex-post estimations • Confuses "net emissions reductions and GHG removals" with "net project GHG emissions" • Does not mention changes in carbon stocks Moreover, the explanatory text below the Figure gives the impression that verification is part of the methodology. (**CAR 12/10)** <u>Conservative assumptions:</u> On p.36, box 4, it is stated that there is a conservative, simplifying assumption, *"that all extracted biomass not retained in the long-term wood products after 100 years is emitted in the year harvested, instead of tracking annual emissions through retirement, burning and decomposition."* However, this assumption is not conservative, and in fact increases the VCUs that the project would receive. (**CAR 37/10**) <u>General comment:</u> On p.36 step 3.4, the final two paragraphs in section 3.4 are somewhat ambiguous. The second paragraph appears to discuss both the baseline and project scenario within the same sentence, which was found to be ambiguous. This makes it unclear how the second paragraph relates to the first; it is suspected that there may be a typing mistake. The important thing is that if the emissions from harvesting activities are counted in the baseline scenario than the emissions from the project activities must be counted in the project scenario. (**OBS 24/10**)		
Findings from Third Assessment 30 August 2010	Multiple inaccuracies were identified by the audit team regarding how increases in carbon stocks are modelled (i.e. assuming a constant regrowth rate over time) could create gross over-estimates of the baseline carbon stock estimates. See findings in 5.2 for a detailed discussion of these issues. (**OBS 39/10)**		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	No change from the previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 39/10**		

5.3 The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs for the project scenario (ex-ante). (VCS 2007.1 6.5.3)

The Assessment should consider:

i. The choice of algorithms/formulae and/or models used and correctness of their application (e.g. mathematical deficiencies, inconsistencies in calculus of dimensions).

ii. The appropriateness (adequacy, consistency, accuracy and reliability) of the parameters provided by the methodology.

iii. The appropriateness of procedures on how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.

iv. Any data gaps:

Findings from Second Assessment 20 April 2010	The revised methodology now includes step 4, which provides guidance for the calculation of *ex ante* project activity GHG emissions. However, there is currently ambiguity around which project scenario activities are allowed, though for which activities need to be quantified. See section 5.4 of this report for details.
Findings from Third Assessment 30 August 2010	STEP 4 – Project Scenario Net Greenhouse Gas Emissions A common problem found in this part of the methodology is that there are no clear distinctions on which parts of the text refer to the estimation of the ex ante and ex post project carbon stock changes and emissions, since there are no specific sections for each of them and guidance for both appears mixed in the document. The audit team recognizes that it is the intention of the methodology to simplify the calculations by having the ex post calculations follow the ex ante calculations, however, this simplification is not clearly articulated. For this reason, many of the problems within the ex post calculations are relevant to the ex ante calculations, as many of the same equations apply. These issues are discussed in tandem in the ex post section of this report. As the methodology does not make a clear distinction between those equations that are applicable to ex ante predictions, and those that are only applicable to ex post calculations, it is assumed that all equations are applicable to both. This creates confusion, as some of the sections do not provide a method where it is possible to calculate ex ante emissions. For example, in sub-step 4.2.1, emissions from Natural Disturbance are calculated, and in sub-step 4.2.2, emissions from illegal logging are calculated. It is not clear how these equations are used to calculate ex ante estimates. It may be the intent of the methodology that these would only be used for ex post calculations, however, as these sections are not clearly divided, this distinction is not clear. (**OBS 38/10**)
Findings from Fourth	No change from the previous report.

Assessment 01 October 2010			
Findings from Fifth Assessment 27 January 2011	The revised version of the IFM Conversion of Logged to Protected Forests v 3-2 (January 2011) is now in conformance with this requirement._		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.4 The methodology shall contain procedures that result in a *conservative* estimation of the sum of the project emissions within the project boundary (ex-ante), taking into account the uncertainties associated with the data and parameters used. In addition, the procedure shall be designed such that it can be carried out in an *unambiguous way, replicated, and subjected to a validation and/or verification study*.

Findings from Second Assessment 20 April 2010	Applicable project activities: Throughout the methodology, GCS has strived to simplify the methodology, while ensuring conservative estimates of GHG reductions resulting from project activities. However, simplification without adequate applicability criterion has the potential to result in non-conservative GHG reduction estimates. For example, on p.41, Step 4, the activities allowed in the project scenario are not well defined. Step four provides two bullet points of activities that 'could' be carried out in the project scenario; however there is no description of activities which are not allowed (or not allowed). On page 10, where the applicability conditions are listed, the first bullet point does address project activities that are allowed. However, the activities listed here are not defined with enough specificity and are open to a lot of interpretation. To give one example, on page 10 it is stated that activities which lead to, "forest degradation" are not allowed, however, on page 8 the definition of, "traditional forest use" includes, " harvesting timber, including firewood, for local consumption at rates that supply local domestic needs." These two rules may not be compatible, what some people define as local consumption may lead to what some people define as degradation. (**OBS 25/10**) On page 42 Step 4.1, vegetation management is mentioned as a project activity but is not defined and is not mentioned on page 10 in the applicability criteria. (**CAR 03/10**) To give another example, the first applicability conditions in page 10 mentions, "traditional use of forests". "Traditional forest use" is defined on page 8 and includes, "harvesting timber", but this was not mentioned in the applicability conditions. Strictly, this is not a problem because the definition does cover timber harvesting, however it could lead to some confusion, and this needs to be explicitly clear. As stated above, the activities allowed and not allowed must be clearly defined in the methodologies applicability conditions. The carbon accounting must then have the ability to calculate carbon losses due to any foreseeable activities.

	Project scenario emissions: On p. 41 STEP 4 – Project Scenario Greenhouse Gas Emissions the methodology states: *"In the baseline scenario, the total of net GHG emission will be calculated as the sum of the net GHG emissions resulting from planned timber harvest in each year over the crediting period"* It is not clear why this section refers to the baseline scenario (**CAR 38/10**). This text introducing equation 39 appears to confuse the total GHG emissions resulting over the crediting period in the project scenario (which is what the equation aims to estimate) with the total of net GHG emission in the baseline scenario. The text continuously uses as synonyms the "net GHG emissions" and the "total GHG emissions" to refer to $GHGt_{|LtPF}$, for instance, the former is used to introduce equation 40 and the latter in equation 39. (**OBS 26/10**) On p. 42 Step 4.1 Project scenario carbon stock changes from improved forest management activities the methodology states: "*For the scope of this methodology, the contribution to changes in carbon stock resulting from improved forest management activities (such as vegetation management and fuel removal) in the project scenario are not accounted."* It is not clear why the methodology assumes that carbon stock changes will most likely be insignificant, given that the activities allowed are so vaguely defined. Additionally, the final sentence above appears to confuse "emissions scenarios" with "project scenarios". It must also be noted that, since project activities are not clearly specified, it is difficult to determine their consequences in terms of changes in carbon stocks, emissions and leakage. On p. 43 Step 4.2.1 Project scenario greenhouse gas emissions from machinery/equipment, the methodology states: *"Fuel consumption will be estimated by accessing annual records of fuel purchased and allocated to machinery/equipment in a geographically defined reference area in the same forest region that is unlogged and under a vegetation management regime similar to the improved forest management activities to be implemented in the project scenario."* It may be difficult to find the reference area complying with the conditions required by this paragraph, and no guidance is provided on what to do in this case. Also, the scenario implied by this section seems to contradict the project activities mentioned in the applicability conditions – i.e. traditional forest use would rarely lead to significant emissions from machinery and transport. It should also be clarified if the reference area is different from those proposed in

	previous section or not. The methodology goes on to state: *"Annual records from the selected reference area will be collected for the five years before the start of the improved forest management project and averaged in order to derive a set of mean fuel consumption figures per unit area per year."* It seems unlikely that such records will always be kept by rural actors carrying out traditional forest management activities, recognizing this challenge it is not clear why more options to develop ex-ante estimates should be provided by the methodology. (**CAR 35/10**) On p. 47 Step 4.2.2 Project scenario greenhouse gas emissions from transport vehicles, the methodology states: "*Total greenhouse gas emissions from fossil fuel combustion in transport vehicles occurring as a result of planned timber harvesting activities in the baseline scenario are accounted summing across the land parcels in the project area"* It is not clear why this section references the baseline scenario and not the project. (**CAR 13/10 and CAR 38/10**)		
Findings from Third Assessment 30 August 2010	In Step 4 of the methodology, it states: "*In accordance with the applicability conditions the project scenario does not allow commercial timber harvest. As a result, carbon stock changes due to vegetation management and fuel removal will be negligible.* *Thus net greenhouse gas emissions in the project scenario will be equal to carbon sequestration through ongoing forest growth minus any emissions resulting from forest disturbance (both illegal logging and natural disturbances)."* As emissions are conservatively omitted from the baseline scenario and the applicability criteria explicitly do not allow those projects that would involve commercial harvesting in their project scenario, the assumption of the omission of emissions from project activities due to vegetation management and fuel removal is conservative.		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	No change from the previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.5 The methodology shall provide steps to calculate the net GHG benefit of the project ex ante. The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emission reductions and removal enhancements during project implementation. GHG emission reductions or removal enhancements shall be quantified as the difference between the GHG emissions and/or removals from GHG sources, sinks and reservoirs relevant for the project and those relevant for the baseline scenario. (VCS 2007.1 6.5.3)

Note, an ex-ante calculation of the net carbon benefits of the project is only required to determine whether decreases in carbon pools or increases in GHG emissions are insignificant and need not be measured and monitored. (II. Step 0, paragraph 1)

Findings from Second Assessment 20 April 2010	GCS has clarified the confusion of the calculation of negative emissions numbers at the beginning of the methodology (and on page 51). It is now clear that a negative GHG emission reflects a reduction or removal of CO_2e from the atmosphere. However, the methodology is use of positive and negative numbers is still confusing. For example $\Delta C_{net,tlBSL}$ in equation 2, is described as the "net annual change in carbon stocks over the project area resulting in year t from planned timber harvest in the baseline scenario". However, the positive value here is used to signify a reduction in carbon stocks. Although the mathematics that they are correct, it is somewhat counterintuitive and not well described by the parameter description. **(OBS 29/10)**		
Findings from Third Assessment 30 August 2010	As noted in findings 5.3 above, greater clarification is needed to provide project developers with clear guidance on the use of equations for both ex ante and ex post calculations.		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	The revised version of the IFM Conversion of Logged to Protected Forests v 3-2 (January 2011) is now in conformance with this requirement._		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.6 All significant GHG sources and leakage shall be measured, estimated and monitored in both the baseline and project case. Certain GHG sources may be considered "insignificant" and do not have to be accounted for if together such omitted decreases in carbon pools and increases in GHG emissions amount to less than 5% of the total CO2-eqbenefits generated by the project. Pools can be omitted if their exclusion leads to

conservative estimates of the number of carbon credits generated. (II. Step 0, paragraph 2 and 3)

Findings from Second Assessment 20 April 2010	Equation 51 is awkward, since the normal practice is to deduct project emissions from baseline emissions (and not the other way around) and then adjust for leakage. This could confuse project proponents using the methodology. Also, the last paragraph on page 51 states that equation 48 estimates net emissions (without clarifying if it refers to baseline or project emissions), while equation 48 deals with leakage due to market effects. (**CAR 38/10**)		
Findings from Third Assessment 30 August 2010	As noted above, emissions from vegetation management and fuel harvesting are assumed to be insignificant due to applicability criteria. However, as the methodology is not clear as to when ex ante and ex post calculations are utilized, it is not clear how ex ante emissions associated with disturbances (both illegal logging and natural disturbance) are calculated. See findings in 5.3 through 5.5 for more descriptions. (**OBS 38/10**)		
Findings from Fourth Assessment 01 October 2010	The methodology now provides guidance on the estimation of natural disturbance carbon stock loses in the parameter tables. The revised methodology includes a parameter table for $A_{dist,l,t}$, which states: "*Ex ante* estimations of areas disturbed shall be based on historic incidence of natural disturbance in the Project region" However, no guidance is provided as to how "historic incidence of natural disturbance" is obtained. The parameter is defined as sourced from GPS coordinates and remote sensing data, however it is not clear how this data will be obtained for project areas. The use of the term "historic incidence" implies the use of literature values, however this would not necessarily be in compliance with the data source. This contradiction may lead to confusion and ambiguity amongst project developers. (**OBS 40/10**)		
Findings from Fifth Assessment 27 January 2011	The findings from the previous assessment report are still relevant.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 40/10**		

Ex-Post Emissions Calculation

5.7 The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs for the baseline scenario (ex-post). (VCS 2007.1 6.5.3)

The assessment should consider:

i. The choice of algorithms/formulae and/or models used and correctness of their application (e.g. mathematical deficiencies, inconsistencies in calculus of dimensions).

ii. The appropriateness (adequacy, consistency, accuracy and reliability) of the parameters provided by the methodology.

iii. The appropriateness of procedures on how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.

iv. Any data gaps.

Findings from Second Assessment 20 April 2010	The revised methodology includes revisions to the monitoring plan (Step 8 in the revised methodology). However, the revised methodology section still does not include clear guidance as to how the inventory data collected during the monitoring of project activities described in Step 8 feed back into the carbon accounting equations. This is illustrated in figure 1 on p.12, however it is not clearly described in Step 8. (**CAR 15/10**)
Findings from Third Assessment 30 August 2010	In step 8 on page 43 of the methodology, it states: "These parameters will be required at each verification and are used in equations 16, 17, 19 at Step 4 and in Step 5." This is the only clear linkage presented as to how the measurements from monitoring are used to calculate ex post carbon stocks. Above this paragraph in Step 8 is a list or parameters to be monitored, and presumably calculated to quantify ex post project activity emission reductions. Included in this list are the parameter variables which help in making connections to the equations difficult. However, this section still lacks explicit guidance that states equations presented in step 4 and 5 are used to calculate both ex ante and ex post estimates. (**OBS 35/10**) On page 28, the methodology goes on to indicate that "*Thus net greenhouse gas emissions in the project scenario will be equal to carbon sequestration through ongoing forest growth minus any emissions resulting from forest disturbance (both illegal logging and natural disturbances). At first verification natural disturbance for the project scenario shall be assumed to be zero as it will also have occurred in the baseline scenario*". A few paragraphs ahead, it also mentions on this subject that "*At all subsequent verifications, data collected for monitored parameters for natural disturbance and illegal logging must be included using the equations given at steps 4.2 and 4.3 below*". These statements are confusing for a number of reasons: • The consideration that natural disturbances may be omitted from the project´s carbon accounting because they would have happened

anyway in the baseline is not in line with the VCS guidance. (**CAR 39/10**)

- The rationale for considering that natural disturbance before the first verification shall be assumed to be zero (because "*it will also have occurred in the baseline scenario*") and to account for carbon stock changes in subsequent ones is not logical.
- It is not clear how natural disturbances would be integrated into the ex ante estimations, since the text does not provide guidance on this issue.
- These two sentences on natural disturbances, although in the same section of the document, refer to different processes (the ex ante and the ex post estimations of the project scenario, respectively).

Regarding illegal logging, the methodology establishes that "the potential for illegal extraction of trees from the project area shall be assessed through a participatory rural appraisal (PRA) of the communities surrounding the project area following step 4.2.2". It is strange that communities inside the project area would not take into account in such assessment (**CAR 39/10**).

Additionally, further guidance should be provided on how to construct the project scenario, particularly on how the results of these PRAs shall be used to project illegal logging throughout the crediting period. (**OBS 36/10**)

Where project proponents choose to determine stock change from forest growth in the project scenario, the methodology requests that "a detailed sampling plan must be provided in the VCS-PD and follow the equations in step 4.1" (page 28). It is not clear why such a sampling plan would be required in addition to the one designed to monitor carbon stock changes in the project area. (**OBS 33/10**)

<u>Step 4.1 Ongoing forest growth in the project scenario</u>

In this sub-step, the methodology dictates to "Select or develop an appropriate allometric equation for forest type/group of species j (e.g. tropical humid forest or tropical dry forest) or for each species or family j (group of species) found in the inventory (hereafter referred to as species group) that converts tree dimensions from field timber inventories on sample plots to aboveground biomass of trees". It is unclear to what inventory this reference is, or why the allometric equations applied in the baseline case are not used here. (**OBS 33/10**)

In sub-step 4.1.2, the methodology states that "Any minimum values employed in inventories are held constant for the duration of the project". This sentence is not clear and could have important repercussions on the estimates, therefore it should be clarified. (**OBS 33/10**)

<u>Step 4.2 Forest disturbance in the project scenario</u>

In subsection 4.2.1 (Natural disturbance) the methodology mentions that "*The focus of estimation of emissions from natural disturbance shall be fire.*

Disturbance can also occur from winds, however, exclusion is conservative as harvested forests are more susceptible to wind damage than unlogged forests. For fire damage it is assumed that a fire burning in the project scenario would also have burned in the baseline. Project emissions are therefore equal to the fire damage to biomass absent in the baseline case (harvested and removed) but present in the project case".

Rainforest Alliance has received clear guidance from the VCS that all significant carbon stock losses from disturbance throughout the entire project area must be accounted for. Following the VCS AFOLU documents, all significant losses of carbon stocks and emissions in the project case shall be accounted for, irrespective of the reason that caused them (fire, winds, etc). Therefore, the proposed exclusion is not compliant with the VCS guidelines. Additionally, this approach cannot be considered conservative, since it exempts projects from accounting for emissions and/or decreases in carbon stocks. (**CAR 39/10)**

The text goes on to mention that "*Where fires occur ex post in the project area, the area burned shall be delineated*" (page 32). This sentence was found unclear, since actual fires can only occur ex post. Moreover, it is not clear how fires would be integrated into the ex ante estimates of the baseline. (**OBS 33/10**)

Equation 17 estimates the GHG emissions from biomass burning due to fire, nevertheless it only considers methane (and not N2O) and although its result is given in tCO2e it does not convert methane emissions into CO2e. (**OBS 33/10**)

With respect to the participatory rural appraisal, the text specifies that "*A participatory rural appraisal (PRA) of the communities surrounding the project area shall be completed to determine if there is the potential for illegal extraction of trees from the project area. If this assessment finds no potential pressure for these activities then illegal logging ($\Delta C_{DIST\_IL,i,t|PRJ}$) can be assumed to be zero and no monitoring is needed.".* This raises a number of questions:

- Why aren´t the communities within the project area considered?
- How are agents other than communities taken into account?
- Is it really necessary to carry out this sub-step, considering that any significant extraction of trees would assumedly be identified and accounted for as part of project monitoring and that illegal logging is not usually associated to this particular LtPF project type? (**CAR 39/10**)

It is not justifiable to not monitor a potential source of emissions within the project area without clearly demonstrating its insignificance ex ante, something that is not possible to do with the guidance currently included in the methodology. (**CAR 39/10)**

On page 34 it is stated that "*The area subject to illegal logging shall be delineated ($A_{DIST\_IL,i}$) based on an access buffer from all access points, such as roads and rivers or previously cleared areas, to the project area, with a width*

	equal to the distance of degradation penetration. $A_{DIST\_IL,i}$ shall be sampled by surveying several transects of known length and width across the access-buffer area (equal in area to at least 1% of $A_{DIST\_IL,i}$) to determine the presence or absence of new tree stumps. The CDM tool for significance[9] *shall be applied to determine significance where there is evidence that trees are being harvested*". The proposal does not explain the rationale of the approach or objective reasons explaining the proposed 1%. This comment also applies to the provision that the sampling plan must be designed using plots systematically placed over the buffer zone so that they sample at least 3% of the area of the buffer zone, for which no explanation is given on why it is considered that 3% is adequate. (**OBS 33/10**) Also on page 34, the document points out that: • "*Where application of the CDM tool demonstrates that illegal logging is absent or insignificant then illegal logging can be assumed to be zero and no monitoring is needed*". This sentence is inaccurate, since it suggests that such tool is able to demonstrate that illegal logging is absent or insignificant. (**OBS 33/10)**
Findings from Fourth Assessment 01 October 2010	<u>Natural Disturbance – Fire:</u> Step 4 of the revised methodology now clearly states that carbon stock loss from disturbance is not restricted to fires. On p.28 of the methodology it is stated: "*This step calculates $\Delta C_{DIST\_FR,t\|PRJ}$, carbon stock change due to fire disturbance in the project scenario; tCO_2-e, $\Delta C_{DIST,t\|PRJ}$, carbon stock change due to non-fire natural disturbance in the project scenario; tCO_2-e and $\Delta C_{DIST\_IL,i,t\|PRJ,}$ the net carbon stock changes as a result of illegal logging in stratum i at time t; in tCO_2e."* <u>Natural Disturbance – Non-fire</u> The methodology has added step 4.2.1.2. to estimate carbon stock losses from non-fire disturbance. In section 4.2 of the methodology it now states: "*It is a requirement that any greenhouse gas emissions from natural disturbance above de minimis that may occur in the project area are monitored.* *Estimation of emissions from natural disturbance shall be calculated depending on the type of disturbance event. Disturbance due to fire is calculated following Step 4.2.1.1, and all non-fire natural disturbance (e.g. wind, disease, pest events) is calculated following Step 4.2.1.2.* " The carbon stock loses from burned biomass is calculated as a function of

[9] http://cdm.unfccc.int/EB/031/eb31_repan16.pdf

	merchantable timber (see equation 18 on p.33). It is not clear how this method accounts for carbon stock losses from the entire project area. As noted in the previous report findings, Rainforest Alliance has received clear guidance from the VCS that all significant carbon stock losses from disturbance throughout the entire project area must be accounted for. Following the calculation logic presented in Step 4.2 of the methodology, only those carbon stock losses in merchantable timber are being estimated. Furthermore, the same problem exists for non-fire disturbance. In section 4.2.1.2 the methodology states: "*For non-fire natural disturbance it is assumed that a disturbance event in the project scenario would also have occurred in the baseline. Project emissions are therefore equal to the non-fire natural disturbance to biomass absent in the baseline case (harvested and removed) but present in the project case.*" As noted in previous Rainforest Alliance assessment reports, it is not acceptable to only account for those carbon stock loses from biomass not present (e.g. harvested) in the baseline scenario. Furthermore, the following sentence is included in Step 4.2.1.2, and it is not clear if this was meant to be included in Step 4.2.1.1: "Where fires occur *ex post* in the project area, the area burned shall be delineated." Equation 21 in the revised methodology now correctly accounts for carbon stock losses from all disturbance types, however, only those carbon stock loses from biomass that were not present in the baseline scenario (e.g. harvested biomass) is included in carbons tock loss estimates. As noted in previous assessment reports, this is not accepted by the VCS. Pending further clarification regarding the acceptance of this methodological approach to quantifying carbon stock losses from disturbance provided by the VCS, **CAR 39/10** will remain open. Additionally, findings related to OBS 33/10, 35/10, and 36/10 in the previous assessment are still applicable.		
Findings from Fifth Assessment 27 January 2011	During December of 2010, Rainforest Alliance received clear guidance from the VCSA that it is acceptable to account for only those carbon stock loses within the project area that would have been logged within the baseline scenario. As such, the current version of the methodology is now in conformance with the clarification guidance Rainforest Alliance received from the VCSA. This clarification closes CAR 39/10. Findings related to OBS 33/10, 35/10, and 36/10 in the previous assessment are still applicable.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 33/10**		

	OBS 35/10 **OBS 36/10**

5.8 The methodology shall contain procedures that result in a conservative estimation of the sum of the baseline emissions within the project boundary that would have occurred in the absence of the proposed VCS project activity (ex-post), taking into account the uncertainties associated with the data and parameters used. In addition, the procedure shall be designed such that it can be carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study.

Findings from Second Assessment 20 April 2010	Multiple corrective action requests remain open in both section 3.3 and 5.7 above. Please refer to these sections for findings related to *ex ante* calculations and monitoring.		
Findings from Third Assessment 30 August 2010	The baseline is no longer adjusted during the project crediting period.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.9 The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs for the project scenario (ex-post). (VCS 2007.1 6.5.3)

The Assessment should consider:

i. The choice of algorithms/formulae and/or models used and correctness of their application (e.g. mathematical deficiencies, inconsistencies in calculus of dimensions).

ii. The appropriateness (adequacy, consistency, accuracy and reliability) of the parameters provided by the methodology.

iii. The appropriateness of procedures on how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.

iv. Any data gaps:

Findings from Second Assessment 20 April 2010	The findings from the first review still apply to the revised methodology. The revised methodology does not provide clear instructions as to how to feed monitoring data back into the carbon accounting equations.		
Findings from Third Assessment 30 August 2010	As the guidance on how to carry out ex post estimations is not clearly separated from that on ex ante calculations, confusion is created, as noted in 5.3 through 5.7 above.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	Please see OBSs related to monitoring and the ex-ante calculation of project activity emissions.		

5.10 The methodology shall contain procedures that result in a conservative estimation of the sum of the project emissions within the project boundary (ex-post), taking into account the uncertainties associated with the data and parameters used. In addition, the procedure shall be designed such that it can be carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study.

Findings from Second Assessment 20 April 2010	The findings from the first review still apply to the revised methodology. The revised methodology does not provide clear instructions as to how to feed monitoring inventory data back into the accounting modules. Additional to those findings from the first review, on p.51, step six, net project greenhouse gas emissions, it is not clear how, if losses of carbon stocks due to unanticipated events such as logging, droughts, fire, or hurricane etc. Step 4.1 on page 42 explains that project scenario carbon stock changes will not be estimated. This exclusion may be suitable for simplifying ex-ante projections, however it is not suitable for ex-post quantification of what actually happened during the project scenario. Likewise, the monitoring section does not discuss how such losses (and any regrowth) would be quantified. However, in step 8.1 on page 54, it is implied that the carbon stock changes may be monitored in the project scenario. Overall, there is ambiguity around this matter. (**CAR 39/10**)
Findings from Third Assessment 30 August 2010	As the guidance on how to carry out ex post estimations is not clearly separated from that on ex ante calculations, confusion is created, as noted in 5.3 through 5.7 above.
Findings from Fourth	The revised methodology now accounts for carbon stock losses from all disturbance types, however, as noted in 5.7 above the methodology for the

Assessment 01 October 2010	calculation of carbon stock losses does not include loses from the entire project area. (**CAR 39/10**)		
Findings from Fifth Assessment 27 January 2011	See findings presented in 5.7 above regarding the closure of CAR 39/10.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.11 The methodology shall provide steps to calculate the net GHG benefit of the project ex-post. The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emission reductions and removal enhancements during project implementation. GHG emission reductions or removal enhancements shall be quantified as the difference between the GHG emissions and/or removals from GHG sources, sinks and reservoirs relevant for the project and those relevant for the baseline scenario. (VCS 2007.1 6.5.3)

Findings from Second Assessment 20 April 2010	The findings from the first review still apply to the revised methodology. The revised methodology does not provide clear instructions as to how to feed monitoring data back into the carbon calculations.		
Findings from Third Assessment 30 August 2010	As the guidance on how to carry out ex post estimations is not clearly separated from that on ex ante calculations, confusion is created, as noted in 5.3 through 5.7 above. Furthermore, no guidance on the calculation from non-fire natural disturbance is provided. (**CAR 39/10**)		
Findings from Fourth Assessment 01 October 2010	The revised methodology now includes guidance on the calculation of emissions from non-fire natural disturbance, although please refer to findings from section 5.7.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	Please see OBSs related to monitoring and the ex-ante calculation of project activity emissions.		

5.12 The methodology shall provide the steps for calculating the number if VCUs to be issued at any given verification event, considering net GHG reductions, leakage, risk buffer credit deduction and any other deductions or alternations that may be needed.

Findings from Second Assessment 20	On p.52, step 7 the number of VCUs are calculated. In step 7 the methodology is not clear whether it is discussing ex-ante estimations or ex-post actual calculations. This is related to general lack of connectivity between step 8

April 2010	(project monitoring) and the earlier sections of the methodology. On 12 April 2010, Rainforest Alliance held a call with Naomi Swickard of the VCS to obtain clarification regarding the calculation steps necessary to determine the number of VCU's that are issued at any given monitoring event. The applicable conclusions from this discussion are summarized below. The methodology must calculate the net greenhouse gas benefit of the project after deductions due to leakage to provide an estimate of the net greenhouse gas benefit of the project at the monitoring event (this number is referred to as the number of 'credits' the project has earned – NOT VCUs at this stage). This net greenhouse gas benefit will then have a proportion of its credits (based on the risk percentage determined and the '*total carbon stock benefits'*) passed into the risk buffer account and the remaining credits will be 'issued' as VCU's. Equation 52 in this methodology is incorrectly states that the number of VCUs to be awarded to the project are calculated before making deductions for risk and uncertainty. The parameter o the left hand side of equation 54 is not defined. The methodology must apply the market leakage percentage determined (as calculated in equations 50 in this methodology) to the '*total carbon stock benefits'* of the project (this is not done in equation 48, because the leakage factor is multiplied by parameter which includes emissions from harvesting activities such as machinery use). Please see page 24 of the VCS Guidance for Agriculture, Forestry and Other Land Use Projects for an example. (**CAR 16/10**) There is also one error related to the use of positive and negative numbers. In equation 52 the methodology takes the absolute value of the net greenhouse gas emissions in the project scenario. This is not acceptable because it will not allow the distinction between cases when the project scenario actually emitted more than the baseline scenario (such as in the case of an unexpected loss due to illegal harvesting).
Findings from Third Assessment 30 August 2010	VCUs are calculated following VCS guidelines in equation 26: $VCU_{net\|LtPF} = \left(Credits_{total,t2\|LtPF} - Credits_{total,t1\|LtPF}\right) \cdot \left(1 - Bu_{\|IFM-VCS}\right)$ Prior to this equation, the number of credits associated with net project activities are calculated in equation 23: $GHG_{CREDITS\|LtPF} = GHG_{NET\|BSL} - GHG_{NET\|PRJ} - GHG_{LK\|LtPF}$ However, it is not clear how time is incorporated into this equation. In previous equations, such as equation 20, time is denoted in the paragraph above the equation, so it is explicit that the equation is calculating the independent variable at a specific period of time. As equation 23 will be used to calculate ex post credits, and ultimately VCUs, there must be a mechanism to relate the calculated values of equation 23 to a specific period of time. During a conversation with GCS on August 12th, it was clarified that the parameters used

	in equation 23 are in fact estimated as a function of time (see equation 11), and hence time is considered in equation 23. Additional clarification was provided by GCS regarding the stepwise process of the calculation of the total number of VCUs to be issued. This was found by the audit team to be in conformance with the VCS standard.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	It should be noted that equation 27 on p.43 is in conformance with the text of the VCS Guidance for AFOLU Projects in the calculation of the buffer contribution which states on p.24: "*When calculating the number of carbon credits that should be issued to a given project, the tradable credits (VCUs) are estimated by subtracting out the leakage from the total estimated "credits" and then subtracting out the non-permanence buffer."* However, as can be seen in the demonstration in the table on p.24 of the VCS Guidance for AFOLU Projects, the buffer withholding should be calculated as proportion of the change in carbon stocks between the baseline and the project scenario. As such, equation 27 is not calculating a proportion of the change in carbon stocks, but rather a proportion of the change in carbon stocks minus leakage. During communications with the methodology developer, this discrepancy was noted, however the methodology developer noted that the methodology is in conformance with the text of the VCS Guidance for AFOLU Projects (see quotation above). Prior to the completion of the 5th assessment report, this issue was discussed with both the VCSA and the methodology developer. It was determined that the calculation of VCUs was not in conformance with the VCS Guidance for AFOLU Projects. As such, the methodology developer revised equation 27 within v 3-1 to produce v 3-2 of the methodology. In v 3-2 of the methodology, equation 27 has been revised to the following: $$VCU_{net\|LtPF} = \left(Credits_{total,t2\|LtPF} - Credits_{total,t1\|LtPF}\right) - Bu_{\|IFM-VCS}$$ The revised v3-2 of the methodology now correctly calculates the number of VCUs following the VCS Guidance for AFOLU projects.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

VCS Specific Requirements for Emissions (ex-ante and ex-post)

5.13 Based on selected or established criteria and procedures, the methodology shall enable the quantification of GHG emissions and/or removals separately for:

i. each relevant GHG for each GHG source, sink and/or reservoir relevant for the project; and

ii. each GHG source, sink and/or reservoir relevant for the baseline scenario. (VCS 2007.1 6.5.2)

Findings from Second Assessment 20 April 2010	The methodology provides procedures to estimate each relevant GHG, source and sink both in the baseline and project scenarios.		
Findings from Third Assessment 30 August 2010	The revised methodology complies with this requirement.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.14 When highly uncertain data and information are relied upon, the methodology shall ensure the selection of assumptions and values available to the project developer do not lead to an overestimation of GHG emission reductions or removal enhancements. (VCS 2007.1, 6.5.2)

Findings from Second Assessment 20 April 2010	The findings from the previous report are still relevant. The methodology contains provision to revise ex-post data considered uncertain or potentially inaccurate based on measurements. However, as noted in section 5.7 above, it is not clear how revised data is applied to earlier monitoring periods.
Findings from Third Assessment	The methodology contains provision to revise ex-post data considered uncertain or potentially inaccurate based on measurements. However, it should be noted that confusion created by the combination of ex ante and ex post calculations leads to ambiguity as to the application of applied data.
Findings from Fourth Assessment 01 October 2010	No change from previous report.
Findings from Fifth	No change from previous report.

Assessment 27 January 2011			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.15 The methodology shall estimate GHG emissions and/or removals by GHG sources, sinks and reservoirs relevant for the project and relevant for the baseline scenario, but not selected for regular monitoring. (VCS 2007.1, 6.5.2)

Findings from Second Assessment 20 April 2010	The revised methodology complies with this requirement		
Findings from Third Assessment 30 August 2010	The revised methodology complies with this requirement		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS issued		

5.16 The methodology shall establish and apply criteria, procedures and/or methodologies to assess the risk of a reversal of a GHG emission reduction or removal enhancement (i.e. permanence of GHG emission reduction or removal enhancement) (VCS 2007.1, 6.5.2).

Findings from Second Assessment 20 April 2010	After discussion with Jerry Seager from the VCS it was acknowledged that the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination, which would form part of a VCS project would adequately account for this. The revised methodology includes a citation to the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination.
Findings from Third Assessment 30 August 2010	The revised methodology includes a citation to the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination.
Findings from Fourth Assessment 01 October 2010	No change from previous report.
Findings from	No change from previous report.

Fifth Assessment 27 January 2011			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.17 If applicable, the methodology shall provide guidance for the selection or development of GHG emissions or removal factors that:

i. are derived from a recognized origin;

ii. are appropriate for the GHG source or sink concerned;

iii. are current at the time of quantification;

iv. take account of the quantification uncertainty and are calculated in a manner intended to yield accurate and reproducible results; and

v. are consistent with the intended use of the VCS PD or monitoring report as applicable (VCS 2007.1, 6.2.5).

Findings from Second Assessment 20 April 2010	GCS has added the following text to the conceptual approach section on p.3: *"Wherever new measurement techniques are accepted and become best practice through the lifetime of a project applying this methodology, their use in the project accounting is encouraged."* However, the methodology still does not provide specific guidance for the updating of conversion factors employed in the methodology. See section 4.1 above for specific details regarding **OBS 07/10**.		
Findings from Third Assessment 30 August 2010	The methodology requires now that IPCC default values shall be updated whenever new guidelines are produced. The parameter tables presented in the attached appendices provide further guidance on the selection and assessment of non-calculated values used by the methodology.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.18 The methodology shall use metric tonnes as the unit of measure and shall convert the quantity of each type of GHG to tonnes of CO_{2e} using appropriate global warming potentials.

Findings from	The revised methodology complies with this requirement.

Second Assessment 20 April 2010			
Findings from Third Assessment	The revised methodology complies with this requirement.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS issued		

5.19 The methodology shall be compatible with the project type specific rules in the VCS Tool for AFOLU methodological issues for the estimation and monitoring of GHG benefits (See II. Step 6, Estimate and Monitor net GHG Benefits, paragraphs 28, 29, 30 & 31)

Findings from Second Assessment 20 April 2010	No project type specific rules apply to IFM LtPF projects.		
Findings from Third Assessment 30 August 2010	No project type specific rules apply to IFM LtPF projects.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☐	No ☐	N/A ☒
CAR/OBS	Not applicable to this methodology		

Quality Control and Uncertainty (ex-ante and ex-post)

5.20 The IPCC 2006 Guidelines shall be followed in terms of quality assurance/control and uncertainty analysis. (II. Step 6, Estimate and Monitor net GHG Benefits, paragraph 31)

Findings from	The methodology discusses uncertainty on p.52, Box 5. In this box, the first bullet point was found to be ambiguous. This requires clarification. Specifically,

Second Assessment 20 April 2010	the section on uncertainty (Box 5) does not identify what the sources of uncertainty could be (for example, measurement of pools, remote sensing data, literature values etc). The specific parameters that could contain uncertainty are not listed, this is required to provide a clear approach to uncertainty quantification. The calculations must show how the uncertainty from each potential source is combined. The text description of how to do this (the final paragraph of section 3 of Box 5) is not sufficiently clear to guide project proponents, and equations would be easier to follow. For example, the paragraph refers to 'errors', yet errors have not been discussed until this point (with only uncertainties being referred to). The method used to propagate errors by quadrature is acceptable, as is the target of 90% accuracy. If indisputably conservative numbers are used, then uncertainty assessment would not be required on that value, however this is not made clear in Box 5. (**OBS 27/10**)		
Findings from Third Assessment 30 August 2010	Uncertainty is discussed in Step 7.1. The methodology requires the use of a 90% confidence interval threshold, above which deductions are made to the estimated credits from project activities.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

5.21 The methodology shall provide guidance for the establishment and application of quality management procedures to manage data and information, including the assessment of uncertainty, relevant to the project and baseline scenario. (VSC 2007.1, 6.5.4)

Findings from Second Assessment 20 April 2010	The information described in the findings from the first review is still relevant, and is now found in Step 8, as a result of the restructuring of the methodology during the revision process.
Findings from Third Assessment 30 August 2010	The information described in the findings from the first review is still relevant
Findings from Fourth Assessment 01 October 2010	No change from previous report.
Findings from Fifth Assessment 27	No change from previous report.

January 2011			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS issued		

6 Leakage:

The methodology shall contain an approach for calculating leakage that is appropriate and adequate.

6.1 Leakage is defined by The VCS Tool for AFOLU Methodological Issues as, "any increase in greenhouse gas emissions that occurs outside a project's boundary (but within the same country), but is measurable and attributable to the project Activities". Its effects on all carbon pools shall be assessed and significant effects taken into account when calculating net emission reductions. Accounting for positive leakage is not allowed. (II. Step 5, Assess and Manage Leakage, paragraph 18)

The methodology shall assess and account for leakage in accordance with the project type specific rules in VCS Tool for AFOLU methodological issues (II. Step 5, Assess and Manage Leakage, paragraphs 20, 21, 22)

The methodology shall identify all possible leakage sources and provide mathematically correct procedures to quantify their effect on the net GHG benefits of the project.

Findings from Second Assessment 20 April 2010	The revised methodology does not include a procedure for calculating activity shifting leakage. In GCS's response to the corrective action requests presented in the first Rainforest Alliance report, GCS stated: *"GCS imagines that this methodology will be applied where the project proponent is 1) the resource owner who has only one parcel of land, 2) the resource owner with control of more than one land parcel or 3) a forestry company with a legal capacity to harvest multiple land parcels. Activity shifting leakage is not possible if the proponent only has resource rights over one parcel of land and has defined all of that land as the project area.* *Where the proponent has access to more than on area of land with the potential for a legal timber harvesting then activity leakage is possible."* Although the methodology developers intend that the methodology will most likely be used in situations where no activity shifting leakage exists, the methodology must be able to conservatively estimate GHG reductions and removals from the broad range of potential application as outlined by the methodology applicability and eligibility. The methodology does not provide a procedure for calculating activity shifting leakage (**CAR 19/10**) On p.48 Step 5 – Project Leakage the methodology states: "*At each verification, documentation shall be provided covering the other lands*

	controlled by the project proponent where leakage could occur, including, at a minimum, their location(s), area and type of existing land use(s), and management plans." In Step 5, the methodology requires that project proponents, "shall demonstrate that the management plans and/or land-use designations of other lands that they control have not materially changed as a result of the planned project". However, no guidance is given on how it should be done or how it could be verified. In addition, if plans have changed, i.e. there has been leakage, then there are no steps in the methodology to quantify this leakage. On p. 49, the methodology includes "Box 4. Leakage factor calculation". However, "Box 4" is not referenced in the text. Within Box 4, it is stated that project proponents should demonstrate that illegal logging is absent (or de minimis) in the host country in order to demonstrate a "no leakage" scenario. However, the methodology does not specify how to determine what "de minimis" is in this context. On p.48, in Box 4 the description of the parameter beneath equation 49 is different from the description of the same parameter beneath equation 4 (on page 21). Most national level carbon stock data will not include deadwood, so its inclusion in equation 49 does not seem appropriate. In Part 2, no leakage scenario, according to the first bullet point, a no leakage scenario can occur when, "no market effects leakage would occur within national boundaries, e.g. if no new concessions are being assigned." The first part of this sentence appears to contain circular logic, the methodology needs to be more specific with regards to what it means in this sentence. Part 4, of the leakage scenarios: the methodology assumes that in all cases timber harvesting is likely to be shifted to a forest with a carbon stock equal to the mean national carbon stock. This is not necessarily a conservative assumption, and may not apply in all cases. It should be noted that the range of values for carbon stocks per unit area provided by the IPCC 2006 guidelines (table 4.7) is large. For example, African tropical rainforest as a mean value of 310 tonnes of dry matter per hectare, however the range is from 130 to 510. Selecting a value at the conservative extreme of this range could result in many projects receiving the maximum leakage factor. This will be conservative, but the methodology developers may wish to consider if there is a way to be more accurate. (**CAR 19/10 and CAR 20/10**)
Findings from Third Assessment 30 August 2010	As noted in the methodology, activity shifting is not allowed under the applicability criteria. Furthermore, the methodology includes guidance in this step to monitor and ensure that activity leakage does not occur. However, the methodology does not include guidance on what to do if activity shifting leakage does occur. Specifically, how would the carbon stock loss be mitigated? As the project would no longer meet the applicability criteria, what would happen to the project? Clear guidance on this potentially complicated issue is not provided within this section of the methodology.

	Step 5.1 Activity shifting leakage on page 37 states that "As per the applicability conditions there may be no leakage due to activity shifting". The fact that this is an applicability condition doesn't mean that it will automatically be complied with, unless demonstration that no such leakage will occur is demanded as a proof of compliance with this condition (which is not the case here). Also, if illegal logging in the region where the project is developed is a concern, then it may also be a potential source of leakage. In section 4, 'Applicability', the final applicability criteria is that there may be no leakage. This is not considered a criterion which can be met ex-ante. It could only be demonstrated through monitoring. Recognizing this, the methodology considers a procedure for ensuring compliance with the applicability criteria throughout the entire project lifetime. Step 5 (bullet 1) would need checking every monitoring event. However, it is not clear what would happen if leakage does occur (as it stands, the meth suddenly becomes inapplicable and the project is left somewhat stranded). Would projects need to cease operating, retire all earned credits? The methodology states that "Where the project proponent controls multiple parcels of land within the country the project proponent must demonstrate that the management plans and/or land-use designations of other lands they control have not materially changed as a result of the planned project (designating new lands as timber concessions or increasing harvest rates in lands already managed for timber) because such changes could lead to reductions in carbon stocks or increases in GHG emissions. This must be demonstrated through: • historical records showing trends in harvest volumes paired with records from the with-project time period showing no deviation from historical trends; • forest management plans prepared ≥24 months prior to the start of the project showing harvest plans on all owned/managed lands paired with records from the with-project time period showing no deviation from management plans". In the second option, it is not clear how the proposed minimum of 24 months may be considered a solid proof, since project proponents might very well have considered the development of an LtPF project before 24 months before its start. (**CAR 19/10**)
Findings from Fourth Assessment 01 October 2010	The revised methodology no longer includes the use of no activity shifting leakage as an applicability condition. In Step 5.1 on p.39 the methodology states: "*There may be no leakage due to activity shifting*." It should be noted that the use of the term "may" is non-binding, and as such this opening sentence is ambiguous. However, the methodology goes on to explicitly state: "*Where activity shifting occurs or a project proponent is unable to provide the*

	necessary documentation at first and subsequent verification, the project shall not meet the requirements for verification. Therefore, the project shall be subject to the VCS conditions on projects which fail to submit periodic verification after the commencement of the project. Project proponents may optionally choose to submit a methodology deviation with their future verifications to address activity shifting leakage." The methodology is now clear that if activity shifting leakage occurs during a project lifetime or the Project Proponent is unable to provide evidence that no activity shifting leakage occurs, the project is then subject to the VCS conditions on projects which fail to submit periodic verification, and as such the project would no longer receive credits. The methodology now clearly defines the process for those projects where activity shifting leakage occurs, or failure to prove otherwise.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

6.2 The methodology shall account for market leakage if timber production is significantly affected, even if the illegal production is prevented or reduced. (II. Step 5, Assess and Manage Leakage, paragraphs 23, 24, 25, 26 and 27)

Note that the VCS provides a default table of market leakage deductions that can be referenced by a methodology.

Findings from Second Assessment 20 April 2010	On p.48 the methodology use the sub-heading, "offtake" is ambiguous, this is not a VCS term and not defined anywhere. As the methodology continues in this section in the second to last paragraph on page 48 is ambiguous. It would appear that this paragraph is trying to explain how the leakage factors work in relation to part four of box 4. In a discussion held with Naomi Swickard of the VCS on 12 April 2010 it was explained that the VCS guidance was not correct in the way it presented leakage factors. Considering this, it is thought to be more appropriate for methodologies are simply reference the latest version of the VCS market leakage tool, until further guidance is provided by the VCS. Projects will still be required to have their market leakage assessments passed through the VCS double approval process at a time of credit issuance. (**OBS 28/10**)
Findings from Third Assessment 30 August 2010	In section 5.2, market leakage (which is the only type of leakage assessed in this methodology) is calculated in the following formula: $$GHG_{LK\|LtPF} = LF_{me} * \left(GHG_{NET\|BSL} * \frac{44}{12} \right)$$

	It is not clear why $GHG_{NET\|BSL}$ is multiplied by 44/12, as this parameter is already converted to CO_2e. Conversations with GCS confirmed that this was an error and as such was removed from the methodology. Additionally, the language used in this section does not reflect the 24 May 2010 VCS Program Update regarding market leakage. Specifically, the program update now requires that "*ratio of merchantable biomass to total biomass*" is used rather than mean carbon stock per unit area. Finally, the leakage factor is determined by a comparative assessment of the proportion of merchantable biomass (note this section has been updated to address the 24May2010 VCS program update, whereas the text in section 5.2 has not, however this proportion of merchantable biomass to what, is not explained. It is assumed that this is meant to be the proportion of merchantable biomass to total biomass, however this is not explicit in the methodology.) The methodology does not explain how the forest type quantified? Are national values used? Is it required that PMP_i forest types are the same as PML_{FT}? This is not specified in the methodology. Following a conversation on August 12th, GCS submitted a revised version of the methodology (LtPF Methodology_V3-0 Final + changes in response to final RA comments) that was amended to address the non-conformance identified above. The revised methodology submitted by GCS on August 13th includes a procedure to estimate market effects leakage in Step 5.2, with specific guidance on calculation of market effects in Box 2 on page 40. The outline procedure for the calculation of market effects leakage was found to be in conformance with the VCS 2007.1 standard.		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR of OBS raised		

7 Monitoring:

7.1 The methodology shall select or establish criteria and procedures for selecting relevant GHG sources, sinks and reservoirs for either regular monitoring or estimation (VCS 2007.1, S6.5.1).

Findings from Second Assessment 20 April 2010	No change from the findings in the first review.

Findings from Third Assessment	The methodology requires the following parameters to be monitored: • Illegal logging PRA • Result of limited illegal logging survey • Area burnt in stratum *i* at time *t* ($A_{burn,i,t}$) • Area potentially impacted by illegal logging in stratum *i* ($A_{DIST\_IL,\ i}$) • Total area of illegal logging sample plots in stratum *i* (AP_i) • Merchantable biomass as a proportion of total above-ground tree biomass for stratum *i* (PMP_i) • Area covered by stratum *i* (A_i) • Diameter at breast height of tree (*DBH*) It is not clear how the PRA would be monitored, since no guidance is provided in this respect. It is also not clear if the area potentially impacted by illegal logging needs to be updated over time, and what is the difference between monitoring this area and monitoring the total area of illegal logging sample plots in stratum *i* (AP_i). Moreover, monitoring of the dead wood carbon pool does not seem to be required by the methodology, and not guidance is provided on how to do it. (**OBS 37/10**) In Step 8.1 the methodology defines the scope of monitoring and the monitoring plan. "Monitoring is required to a) determine changes in forest carbon stocks and greenhouse gas emissions from project activity; b) confirm project activity; and c) determine changes in forest carbon stocks and greenhouse gas emissions from disturbance and illegal logging. In some project cases monitoring may also be implemented to update stratification". It is not clear how the project activity is to be "confirmed", or why the determination of changes in carbon stocks and emissions from disturbances and illegal logging are not covered by a). Moreover, the methodology should clearly state in which cases monitoring would need to be implemented to update stratification. (**OBS 37/10**)		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 37/10**		

7.2 The methodology shall contain a procedure to monitor and document the implementation of the project on land areas within the project boundary.

Findings from Second Assessment 20 April 2010	On p.54, Step eight, project monitoring, the methodology monitoring section is vague and lacking sufficient guidance. Clear steps on what needs to be monitored and how must be given. How the values gathered by monitoring are used to calculate the number of VCUs to be issued must be made explicitly clear. For example, bullet point (a) (which is ambiguous) states that changes in forest carbon stocks and greenhouse gas emissions from the baseline scenario need to be monitored, however it is not clear how this should be done how the results would feedback into the equation is presented earlier in methodology (see **CAR 15/10**). The methodology does not mention how unexpected losses to the carbon stocks would be monitored for and accounted for in the main part of the methodology (see **CAR 39/10**). On page 66 it is mentioned that remote sensing and field sampling should be used to detect the annual change in carbon stocks over the project area, but no steps are provided on how to do this, no equations are provided, and it refers to emissions from improved forest management activities (it is not mention unexpected emissions from activity is unrelated to project management). On p.56 Step 8.5 Monitoring of actual carbon stock changes and greenhouse gas emissions the methodology states: *"The ex ante estimated average carbon stock and emissions for the project area as assessed in Step 3 will remain fixed during the first monitoring period."* It is not clear exactly what is meant by this statement, however the VCS AFOLU guidance does not allow any exceptions regarding monitoring project GHG emissions and changes in carbon stocks. Additionally, the methodology does not contain guidance on how to monitor GHG emissions from sources. It was confirmed following a phone conversation with Naomi Swickard of the VCS on 12th April 2010 that project developers are responsible for any losses to carbon stocks within the carbon pools selected in the methodology, whether due to negligence or *force majeure*. Therefore, the methodology must include calculation steps to quantify any such losses. Please note, the responsibility of carbon losses within the tree carbon pool are not limited to those which would have been harvested in the baseline scenario, but applies to all trees within the project area. It is not clear whether step 8.5 is discussing the "actual carbon stock changes and greenhouse gas emissions" from the baseline scenario or the project scenario. The reference to step three in the first sentence implies this section may be discussing the baseline scenario. We have a concern that there is a lack of guidance around monitoring the actual changes in carbon stocks within

	project area during the project. (**CAR 21/10**)		
Findings from Third Assessment 30 August 2010	The methodology does not include a clear, executable monitoring plan, but rather relies on project developers to develop a monitoring plan that meets identified criteria within the methodology (see findings from 7.2 regarding several ambiguous areas within the guidance). Additionally, the procedures in this section still does not clearly explain how ex post calculations are feed back into the methodology. In Step 8 the methodology states: "These parameters will be required at each verification and are used in equations 16, 17, 19 at Step 4 and in Step 5." However, this is not elaborated on further. As written, it is difficult to discern the process for ex post calculations. (see **OBS 35/10**)		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 35/10**		

7.3 The methodology shall contain appropriate and correct sampling design procedures for the ex-post calculation of actual GHG emissions and determination of the ex-post baseline GHG emissions by sinks (if required). The sampling design may, include determination of number of plots, and plot distribution, etc.

Findings from Second Assessment 20 April 2010	The revised methodology includes increased guidance on reference areas in Step 8.5 on p.56. However, the revised texts does not include guidance on how equations will handle multiple sample plots. Reference areas are only mentioned one time in the entirety of Step 8, with the exclusion of the parameter tables. Some guidance is included in the parameter tables at the end of Step 8, however, no guidance is given within the text. Additionally, there is confusion with how reference areas are utilized in previous sections of the methodology. (**CAR 22/10**) For example, on p. 54 Step 8.1 Scope of monitoring and the monitoring plan, the methodology states: "*Monitoring is required to* *a) determine changes in forest carbon stocks and greenhouse gas emissions from both project activity and in the baseline case,* *b) confirm project activity,"* According to previous sections of the methodology, monitoring the baseline

	through one or several reference areas was one of two options, so it should be made clear here whether or not monitoring is only required in case this option was chosen. Additionally, it is not clear what is meant by "confirm project activity". On p.55 Step 8.4 Stratification, the methodology states: "*The monitoring plan may include sampling to adjust the number and boundaries of the strata defined ex ante where an update is beneficial"* It is not clear when the methodology refers to monitoring to update the stratification in the baseline case (reference area) and the project scenario. On p.57 Step 8.6 Conservative approach and uncertainty, the methodology states: "*..a value that does not lead to over-estimation of net anthropogenic GHG removals by sinks must be selected"* It is not clear why this sentence does not also reference emissions.
Findings from Third Assessment 30 August 2010	The methodology requires sampling in the following cases: • For the validation of pre-existing forest inventory, in which case data must be carried out by field surveys. The text specifies that "For each strata, mean volume is estimated from sample plots/points measured within the project area using standard forest inventory assessment methods. The number of sample plots will be determined from application of the Tool for Calculation of the Number of Sample Plots for Measurements within A/R CDM Project Activities". • For estimation of base year carbon stocks strata, in which case "Based on the availability of data regarding the nature and composition of forest stocks in the project area, stratification will be developed on the basis of either: o existing vegetation mapping or stratification, where these are documented in the legal right to harvest; or o estimates developed from sampling the project area using standard forest assessment protocols specific to the forest region where the project area is located". • Where project proponents choose to determine stock change from forest growth in the project scenario "a detailed sampling plan must be provided in the VCS-PD" (page 28). However, no guidance is provided on how to carry out such detailed sampling. (**OBS 37/10**) • On page 34, the text indicates that "If the results of the PRA suggest that there is a potential for illegal logging activities, then limited field sampling must be undertaken". However, no guidance on how to carry out such sampling is provided, or what is implied by the word "limited". (**OBS 37/10**) Where limited sampling provides evidence that trees are being removed in the buffer area, then systematic sampling must be implemented based on a

	detailed sampling plan. The methodology provides detailed guidance on how to design such sampling plan. As noted in finding 7.2, additional clarification on the use of equations outlined earlier in the methodology would eliminate potential ambiguities and confusion as to the application of ex post parameter monitoring. **OBS 35/10**		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 35/10**		

7.4 The monitoring plan in the methodology shall be compatible and consistent with the proposed baseline methodology and be described in an adequate and transparent manner.

Findings from Second Assessment 20 April 2010	The findings from the first report are still relevant.		
Findings from Third Assessment 30 August 2010	The monitoring plan in the methodology is compatible and consistent with the proposed baseline methodology, however, as noted in 7.1 through 7.3, additional clarification in highlighted section of the monitor section would assist in clarifying any confusion for project developers. See comments in the attached methodology (Appendix B) of this report.		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

Note: The monitoring methodology and results will determine the ex-post emissions estimation for the baseline, project emissions and leakage which are assessed in the sections above.

8 Data and parameters:

8.1 The methodology shall have appropriate procedures for how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.)

Findings from Second Assessment 20 April 2010	The methodology includes guidance within the text as well as the parameter tables included in the appendix regarding the selection and source of parameters. Additionally, in the case of project developers who are unable to obtain specific information on fossil fuel emissions related to baseline calculations, the methodology notes that it is conservative to not include these emissions in the GHG calculation.		
Findings from Third Assessment 30 August 2010	The findings from the previous report are still relevant.		
Findings from Fourth Assessment 01 October 2010	No change from the previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

8.2 The methodology shall present equations in a clear, consistent, mathematically correct format which allows data to be traced through them.

Findings from Second Assessment 20 April 2010	The revised methodology still has many errors imbedded in the equations. The following are several examples, specific to those CARs from the first Rainforest Alliance report, that are present in the revised methodology. A check of a sample of the parameter tables found errors and omissions to be common. Methodologies cannot be validated if they contain errors and emissions, so a thorough review is recommended before any further submissions. Equation accuracy: Page 21, Equation 4: Equation 4 is not mathematically correct due to a failure to divide by the number of strata, and account for the fact that one land parcel may contain different proportions of any particular strata. The purpose of equation four is not clear, the value calculated does not appear to be applied anywhere else in the methodology. (**CAR 24/10**) Parameter derivation: P 27 option 2.2, equation 12: Rainforest Alliance requested information on the derivation of this equation from Charlie Wilson of GCS on 14 April 2010. The

	source and/or explanation of this equation has yet to be provided by GCS to Rainforest Alliance. (**CAR 25/10**) <u>Parameter labelling:</u> P 59, Dia: this parameter is used in equations 15 not in equation 14 as stated. P 24, equation 8: the parameter on the left-hand side of the equation does not match the parameter listed below. P 31, step 3.2.1, equation 22 is one example of the many equations which do not have all the parameters listed beneath them. It is frequently the parameter on the left-hand side of the equation which is not listed below. All parameters must be listed below for clarity. P 35, box 4: The parameters used in equation 29 have units of '%' yet in the data and parameters tables in appendix 1 they are shown to be dimensionless. P 55, step 8.3: In step 8.3 (monitoring of project implementation) the methodology states that, "the geographic position of the project boundary is recorded for all areas of land." However, in the section, "data and parameters used in monitoring" project area is not mentioned. P 60,H_{sdw}: the units are said to be centimetres, however when the parameter description in equation 9 is cross-referenced this becomes ambiguous. It would appear there has been a typing mistake in parameters listed under equation 9. P65, $TD_{SDW:}$ on page 65 the parameter use capital letters that does not in equation 10. In general, the use of capital letters in parameters should be carefully assessed, because in some cases the use of a capital letter changes the meaning of the parameter, see for example the parameters in equation 22 on page 31. (**CAR 27/10**) <u>Precision of appendix references:</u> P 61, $\Delta C_{growth, i,p}$: If IPCC default tables are to be used, the exact table should be referenced for clarity. This applies to all cases where literature references are used; the exact reference should be provided. P 62, $\Delta C_{regrowth, i,p:}$ it is not clear how the regrowth values will be selected that represent realistic regrowth from the three types of harvesting patterns can be used for the baseline (clearfelling, species/stratum selective logging regime, area selective logging regime) . P 66, $\Delta C_{ifm,tILtPF}$: the description of this parameter states that it is measuring changes in carbon stocks due to improve forest management activities, however does not mention unexpected changes in carbon stocks, for example losses due to droughts, fire, hurricanes, as is Illegal logging etc. P 69, $A_{i, p}$: on page 55 it is stated that, "the monitoring plan may include

	sampling to adjust the number and boundaries of the strata defined ex-ante where an update is beneficial ...” yet the parameters concerning the area of stratum are within the appendix 1, which is for parameters which are not monitored (or possibly measured one time). P 71, BCEFs: this parameter is used in equations 23, but this is not mentioned on page 71. P78,$CF_{,dw,dc}$: This parameter is used in equation 16, but on page 78 it is stated that it is used in equation 15. The same issue applies to the wood density parameter on page 79. P 84, D_f: it would aid clarity if the units were presented the same wherever the parameter is used (see page 44 for example). P 87, LDF: the parameter on page 87 does not appear to be used anywhere within methodology. (**CAR 28/10**)
Findings from Third Assessment 30 August 2010	Equation 2 on page 20: $V_{j,i\|BSL} = \frac{1}{SP} * \sum_{sp=1}^{SP} \frac{V_{j,i,sp}}{A_{sp}}$ This equation estimates the mean merchantable volume per unit area. The parameter table below defines SP as “1, 2, 3 …SP sample plots”. The use of SP in the denominator of this equation is then unclear. It is not clear if this represents the total number of sample plots, or how the sample plot number is applied in this equation. The same is true for equation 15 on page 30. (**CAR 41/10)** Equation 10 on page 26: $\Delta C_{NET,p\|BSL} = \sum_{i=1}^{M} \left(\Delta C_{DW,i,p\|BSL} + \Delta C_{WP,i,p\|BSL} - \Delta C_{RG,i,p\|BSL} \right)$ This equation estimates the net change in carbon stock in each land parcel, but it is not clear if it does so for the whole crediting period or for a determined number of years. (**CAR 41/10)** Equation 17 on page 26: $\Delta C_{DIST,t\|PRJ} = \sum_{i=1}^{M} (A_{burn,i,t} * B_{i,t\|PRJ} * COMF_i * G_{g,i} * 10^3)$ In the parameter table of this equation defines $\Delta C_{DIST,t\|PRJ}$ as: “Greenhouse emissions due to disturbance in the project scenario; tCO_2e. However, it is not clear how tC is converted to CO_2e in this equation. (**OBS 33/10**) Furthermore, the VCS require that carbon stock losses in the project scenario

	are calculated for the entire project area. The methodology states: "*Project emissions are therefore equal to the fire damage to biomass absent in the baseline case (harvested and removed) but present in the project case."* This is not consistent with the requirements of carbon stock loss quantification by the VCS, which states that all carbon stock losses with the project area must be calculated. Additionally, this equation only accounts for carbon stock losses from fire, as the methodology states: "*Disturbance can also occur from winds, however, exclusion is conservative as harvested forests are more susceptible to wind damage than unlogged forests."* It is not clear how the omission of other types of disturbance is conservative. Furthermore, though it may be true that some specific types of disturbance have been shown to be more frequent in harvested forests, however, the same can be said for other types of disturbance in non-harvested forests. As this methodology is applicable in all forest types, it must be able to conservatively estimate carbon stock losses from all types of natural disturbance. The omission of all other types of disturbance other than fires is not conservative, and does not meet the VCS requirements for the calculation of carbon stock losses in ex post monitoring. (**CAR 39/10**) Equation 19 page 35: $$\Delta C_{DIST\_IL,t\|PRJ} = \sum_{i=1}^{M}\left(A_{DIST\_IL,i} * \frac{C_{DIST\_IL,i,t\|PRJ}}{AP_i} \right)$$ In this equation the parameter $C_{DIST\_IL,i,t\|PRJ}$ is used. It is not clear where this parameter is calculated. As this parameter is not included in the parameter tables, it is not clear how this parameter is derived. (**CAR 25/10)**
Findings from Fourth Assessment 01 October 2010	Equation 2: Regarding equation 2 on p.20, the use of the parameter SP was found to be mathematically correct. The parameter is defined as, "1, 2, 3 …S*P* sample plots", and as such it is unclear if this is calculated per individual sample plot number, or per the total number of sample plots. However, upon further review, it was found that only the total number of sample plots could be used in this case, and as such the parameter is then correctly used to calculate the mean merchantable volume. Equation 10: Following the issuance of the third assessment report, the audit team met with GCS, and GCS explained the use of land parcels within the methodology. Following further clarification from the methodology developers, the audit team has found that this equation is accurate. Equation 19: The revised methodology now includes an additional parameter table in the "*Data and Parameters used for monitoring*" section. The additional parameter table for $C_{DIST\_IL,i,t\|PRJ}$ describes the derivation of this parameter. The revised methodology now clearly defines the derivation or process for obtaining parameters used within the methodological equations.

Findings from Fifth Assessment 27 January 2011	On p.39 of the methodology the parameter $GHG_{LK\|LtPF}$ is described as having units as tCO2e. It should be noted that unlike other parameter units, the "2" in tCO2e is not in subscripts.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 01/11**		

9 Adherence to the project-level principles of the VCS Program:

The methodology shall adhere to the project-level principles of the VCS Program (VCS 2007.1, 5.1), summarised below and the full principals at the top of this report.

9.1 The methodology shall be compatible with the VCS project level principles, as explained in more detail in section 1.3 of this report. These principles are relevancy, completeness, consistency, conservativeness, accuracy, transparency and conservativeness.

Findings from Second Assessment 20 April 2010	The revised methodology is an improvement from the previous version of the methodology. However, numerous errors are present in the revised methodology. The project proponent has attempted to increase the transparency with which equations flow through which VCUs resulting from project activities are calculated, however, embedded errors in the methodology make following the step by step process to VCU calculation difficult. For example, figure 1 on p.12 of the methodology presents the procedural flow of the methodology. This is a useful tool for understanding the procedural methods. In the figure "step 8" breaks off from "step 1", feeding into the accounting modules. The mechanism for how this actually happens is not clear in the text. The accounting modules are written specifically for calculating *ex ante* estimates, which makes it unclear how they are applied to calculate *ex post* measurements. Numerous examples have been provided that demonstrate the methodology has not undergone a thorough review before submission (typos, equations incorrect, issues in parameters tables). In addition one formatting issue was found: In the paragraph above Box 2 on p.25, the methodology states "Error! Reference source not found", indicative of missing internal references in the source document.
Findings from Third Assessment 30 August 2010	As pointed out in the previous sections of this document, the methodology still is not fully compatible with the VCS project level principles.
Findings from Fourth Assessment 01 October 2010	The revised methodology is now in comformance with the VCS project level principals. Numerous observations (OBS) have been noted within this report (see list of OBS in section 2.2.1 of this report). Including revisions to address these observations would likely increase the usability of this methodology. However, fundamentally, the revised methodology meets the basic VCS project level principals.

Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

10 Special case of previous rejection from other GHG program

10.1 Methodologies rejected by other GHG Programs, due to procedural or eligibility requirements where the GHG Program applied has been approved by the VCS Board; can be considered for VCUs but Methodology Developers in this case shall:

i. document the methodology; and

ii. clearly state in its VCS PD all GHG Programs for which the methodology has applied for approval and why the methodology was rejected, such information shall not be deemed commercially sensitive information; and

iii. provide the VCS Program verifier with the actual rejection document(s) including explanation of why the methodology was rejected (VCS 2007.1, S6.1).

Findings from Second Assessment 20 April 2010	The audit team is not aware of any other programs that this methodology has been rejected from.		
Findings from Third Assessment 30 August 2010	No change from previous review.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☐	No ☐	N/A ☒
CAR/OBS	Not applicable to this methodology.		

11 Public Review

11.1 The Methodology shall be posted for public comment in accordance with VCS guidelines. The methodology developer shall demonstrate how it has taken due account of all and any such comments.

Findings from Second	As part of the response to the Rainforest Alliance CARs, GCS include as an appendix responses to the public comments received. The review posted by

Assessment 20 April 2010	Carbon Planet included general CARs (titled CP-CAR X), which included numerous comments imbedded within the CAR. In the appendix presented by GCS, only general responses are provided, and it is not clear how GCS has taken due account of all and any such comments, as required by the VCS. For example, CP-CAR 01 General, includes 11 sub-points. Not all of these sub-points were addressed by the corrective action requests and observations presented in the Rainforest Alliance 1st March 2010 report. The response provided by GCS to this comment was: "*The methodology has been extensively revised and edited for clarity following CARs and OBS raised by RA*" GCS has not demonstrated that it has taken into account all of the comments submitted during the stakeholder review process. (**CAR 29/10**)		
Findings from Third Assessment 30 August 2010	During a meeting between GCS and RA in Washington D.C. on May 26th, 2010, the process for assessing stakeholder comments was described by GCS. During this meeting, GCS described to RA how the amendment presented with the previous version of the methodology was drafted, and how they addressed each of the stakeholder comments. At this meeting, the Rainforest Alliance requested additional evidence outlining how each of the issues raised during the public review were addressed, or refuted (with substantial evidence justifying why) by GCS. Along with the submission of the revised methodology, GCS has submitted supplementary evidence of how the addressed each of the concerns raised during the public review. This additional evidence provides clarification as to how each of the concerns raised during public review were addressed by GCS.		
Findings from Fourth Assessment 01 October 2010	No change from previous report.		
Findings from Fifth Assessment 27 January 2011	No change from previous report.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR or OBS raised		

Appendix C: FIRST ASSESSMENT REPORT FINDINGS

1 Eligibility criteria

The methodology shall contain eligibility criteria which are appropriate and adequate.

1.1 The methodology shall be for a project type which falls within one or more of the eligible AFOLU project categories as Defined in the VCS Tool for AFOLU methodological issues (See: I. Scope and Applicability)

Findings from 1 March 2010 Review	The methodology describes a logged to protected forest project under the improved forest management project type (IMF – LtPF) and is compatible with the specific VCS guidelines relating to this project type. There are two subtypes of IFM-LtPF: a. *"protecting currently logged or degraded forests from further logging; and,* b. *protecting unlogged forests that would be logged in the absence of carbon finance."* (VCS Tool for AFOLU Methodological Issues Inconsistencies within the methodology make it unclear as to which of the two subtypes this methodology is applicable to, or if the methodology applies to both sub-types. In the executive summary on p. 2 it is stated that the methodology is applicable to: *(1) protecting currently logged or degraded forests and plantations from further logging and degradation; and, (2) protecting unlogged forests that would be logged in the absence of carbon finance.* It is not clear how the first situation where currently logged or degraded tropical forests are protected is quantified in this methodology. In section 3 paragraph 1 of p.5, it is stated that: *This IFM Methodology is only applicable to Logged to Protected Forest (LtPF) projects that protect unlogged tropical forests that would be logged in the absence of carbon finance.* This statement is reiterated on p. 7 paragraph 1. The result is that the text is inconsistent in its definitions of the application of the methodology. (**CAR 01/10**) Plantations are included in the scope of the methodology in the quote from p. 2 above. However plantations are not discussed within the methodology, and no specific guidance related to plantations is offered (**OBS 01/10**). Additionally, it should be noted that some of the references in section 1 refer to methodologies that are as yet unapproved and are first draft versions.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 01/10, OBS 01/10**		

1.2 The methodology shall be compatible with VCS Tool for AFOLU methodological issues in the statement of eligibility conditions. Specifically;

iii. "Documented evidence shall be provided in the VCS PD that no ARR or ALM project areas were cleared of native ecosystems within the ten years prior to the proposed VCS project start." (II. Step 1, paragraphs 6)

iv. "In the case of REDD projects, the boundary of the REDD activity shall be clearly delineated and defined and include only land qualifying as "forest" for a minimum of 10 years prior to the project start date." (II. Step 1, paragraphs 7)

Findings from 1 March 2010 Review	(i) Does not apply to this IFM project (ii) Step 1.1 on p. 7 states: *The boundary of the IFM activity shall be clearly delineated and defined and include only land qualifying as "forest" for a minimum of 10 years prior to the project start date.* This is not a specific requirement of IFM projects, but rather of REDD projects. According to the VCS AFOLU Tool for Methodological Issues, *"Activities related to improved forest management are those implemented on forest lands managed for wood products such as sawtimber, pulpwood, and fuelwood and are included in the IPCC category "forests remaining as forests" (see IPCC AFOLU 2006 Guidelines). Only areas that have been designated, sanctioned or approved for such activities (e.g., as logging concessions or plantations) by the national or local regulatory bodies are eligible for crediting under the VCS Improved Forest Management (IFM) category*." The methodology states in section 3. p. 5: *For all instances of planned timber harvest IFM projects, there must be an immediate site specific forest management agreement or timber harvest plan. The agreement or plan must be demonstrated by documentary proof of legal permissibility for timber harvest, intent to harvest, government approval or request for approval for the commencement of harvest, and a description of the timber resource*. The methodology does not clearly state that the project area should have been designated, sanctioned or approved for management by the relevant (governmental) regulatory body. The relevant document to demonstrate eligibility requested by the VCS may not be an agreement or a plan, but the legal permit/concession issued by the relevant governmental authority, and this is not clear in the text. Likewise, the request for approval for the commencement of harvest does not have the legal weight (and does not represent the certainty required for the baseline) of a granted approval, and therefore cannot replace it. (**CAR 02/10**)

Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 02/10**		

1.3 The methodology shall contain appropriate applicability conditions (e.g. project type, national and regional circumstances / policies, data and resource availability, environmental conditions, past land-use and land use changes, purpose of the activity and practices) that adequately constrain the use of the methodology such that any assumptions made or data inputs required later in the methodology are appropriate.

Findings from 1 March 2010 Review	Section 3 of the methodology discusses the applicability of this methodology. This section follows section 2 which defines a few terms used in the methodology. Section 2 provides an incomplete listing of terms used in the methodology, which creates ambiguity in subsequent sections as well as determining applicability conditions. For example, in section 3, terms such as forest degradation, forest lands are used, however these terms are not defined in section 2. Furthermore on p.5 the methodology states: *Project activities can include traditional use of forests and forest products for domestic resources that do not result in commercial forest timber harvest or forest degradation.* However, the terms "traditional use of forests" or "commercial forest timber harvest" are not included in the definition list in section 2. (**CAR 03/10)** Additionally, it is unclear why the specific requirements for sampling framework are included in the applicability section. (**OBS 02/10**) Section 3 of the methodology describes the specific exclusions of the methodology. On p.6 the methodology states: This *methodology does not apply to peat lands or wetlands. Any land classified as peat, permanent swamp or wetland will be excluded from both baseline and project case carbon stock change and emission calculations*. However, excluding peatland areas from the project boundaries does not mean that project activities may not affect peatlands surrounding the project area, not only directly through project activities, but also indirectly due to leakage. The methodology does not explicitly mention that project activities will not cause GHG emissions (e.g. modify the hydrology) in adjacent peatlands. The methodology does not clearly explain the rationale behind the specific exclusions listed on p.6. Forest fires and other natural disturbances have the potential to significantly impact forest carbon stocks. In the monitoring section (Section 5) of the methodology in the last paragraph on p. 37 it states: *As the number and boundaries of the strata defined ex-ante may change during the crediting period (ex-post), the ex-post stratification shall be updated*

	because of a) unexpected disturbances occurring during the crediting period (e.g. due to fire. pests or disease outbreaks) affecting differently various parts of an originally homogeneous stratum. It appears that forest fires are not excluded from the project, as they do affect ex post stratification. This appears to contradict the exclusions described in section 3. (**CAR 04/10)**		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 03/10, CAR 04/10, OBS 02/10**		

2 Project boundary:

The methodology shall contain an appropriate and adequate approach for the definition of the project's physical boundary and sources and types of gases included.

2.1 The methodology shall provide a methodological procedure for identifying and assessing GHG sources, sinks and reservoirs (SSRs) controlled, related to, or affected by the project. The methodology shall include guidance for the identification and assessment of GHG sources, sinks and reservoirs as being:

v. controlled by the Project Proponent:

vi. related to the GHG project; or

vii. affected by the GHG project. (VCS 2007.1, S6.2).

viii. if necessary, explain and apply additional criteria for identifying relevant baseline GHG sources, sinks and reservoirs; and compare the project's identified GHG sources, sinks and reservoirs with those identified in the baseline scenario. (VCS 2007.1, Section 6.2)

Findings from 1 March 2010 Review	Geographic Boundaries: The methodology states that the geographic boundaries of an IFM project are fixed and thus do not change over the project lifetime. However, this contradicts section 5, where the methodology defines how ex-post stratification will be changed to reflect changes in ex-ante stratification (see findings in 1.3 above). (**OBS 03/10**) Definition of a forest: It is not clear how the methodology identifies excluded areas specified in section 3. The methodology specifies on p.6 that peatlands are excluded from the methodology. Additionally, Step 1.1 on p. 7 the methodology states: *To be eligible for VCS crediting, land defined as "forest" shall meet accepted definitions of what constitutes a forest as given in the VCS standards for IFM activities.* However, no methodological procedure is given on how to identify forest land and calculate project area minus specified exclusion zones, and those areas that do not qualify as forests. Furthermore, there is no such forest definition for

	IFM projects in the VCS – this requirement only applies to REDD projects. The methodology in a number of places alludes to what criteria an area of forest must meet in order to be considered eligible with respect to the threat of harvest. For example see , "*Current and planned land use*" on p. 5, "*Evidence with regard to logging concession pre-existing carbon credits*" p. 5 and Step 1.1 on p. 7 which states, *Only areas that have been designated, sanctioned or approved for such activities (e.g., as logging concessions or plantations) by the national or local regulatory bodies are eligible for crediting under the VCS Improved Forest Management (IFM) category*. See also p. 10 where it is stated, "*Under the baseline scenario, planned timber harvest in the project area (for sawtimber, pulpwood, and fuelwood) is expected to occur as stipulated in the terms of an immediate site-specific forest management agreement or timber harvest plan*." On p. 20 it is stated that, *For all instances of planned timber harvest IFM projects, there must be an immediate site specific forest management agreement or timber harvest plan.* Having different wording in different parts of the methodology makes it unclear what is required of a project to fulfill the definition of forests and other land classes or types (**CAR 05/10**). <u>Temporal Boundaries:</u> It is not clear why Steps 1.2.3 and 1.2.4 are included in this section, as these sections are relevant to the monitoring activities. (**OBS 04/10**) In part 2, step 1.2.3 it is stated that the baseline shall be revised every 10 years, whereas in step 3 it is stated that: *Periodical adjustments to the baseline shall be established on the basis of monitoring performed on a reference area, or a set of proxy areas that have undergone planned timber harvest.* Yet, "periodical" is not defined (see **CAR 03/10**). Furthermore, in step 5.2 (p. 38) it is stated that: *The ex ante estimated average carbon stock and emissions for the reference and project area as assessed in Step 3 (estimation of baseline carbon stock changes and greenhouse gas emissions) will remain fixed during a crediting period*. Implying the baseline will not be re-assessed for the length of the crediting period (20-100 years). (Aside: it is not clear why reference regions are

	mentioned here). On p. 24 it is stated that: *Both growth and re-growth factors will be re-assessed at regular intervals on the basis of sampling performed as part of the project monitoring plan.* Such a re-assessment could yield changes in the baseline emissions at "regular intervals". Therefore, it is ambiguous how often the baseline will be changed during the course of a project. (**CAR 06/10**) <u>Crediting period</u> In part 2, step 1.2.2 the crediting period is correctly defined according to the VCS definition for AFOLU projects. However references to the crediting period later on in the methodology lead to confusion about what the crediting period represents. For example, in step 5.2 (p. 38) it is stated that, "….*will remain fixed during a crediting period".* Since there is only one crediting period for a project, it is not clear if this is referring to sequential projects happening on the same piece of land or if this is a mistake (see also reference to the "last crediting period" on p. 37 and the "first crediting period" on p. 38). (**CAR 07/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 05/10, CAR 06/10, CAR 07/10, OBS 03/10, OBS 04/10**		

2.2 The methodology shall be compatible with the VCS Tool for AFOLU methodological issues, providing steps to define the project boundary in terms of:

v. The geographic boundary within which the project will be implemented;

vi. The project crediting period;

vii. The sources and sinks, and associated types of GHGs (i.e., CO_2, N_2O, CH_4), the project will affect; and

viii. The carbon pools that the project will consider, in accordance to the particular project type and Table 1, in step 3 of the VCS Tool for AFOLU Methodological Issues and ensuring they are appropriate in the context of the applicability conditions and the determination of project GHG emissions and baseline net GHG emissions.

(II. Step 2 Determine the Project Boundary and 3 Determine the Carbon Pools)

Findings from 1 March 2010 Review	The methodology identifies the temporal boundaries in Step 1.2. Included in this section is the definition of the project crediting period, which is in conformance with VCS requirements. See **CAR 07/10** as related to subsequent reference to the crediting period in the methodology. Carbon pools included in the methodology are listed in Table 1 on p. 9, and include all required pools of IFM projects, as outline in Step 3 of the VCS Tool for AFOLU Methodological Issues. Table 2 on p. 10 of the methodology includes a list of GHGs included in the methodology. This table provides a justification for the inclusion or exclusion of

	each of the identified GHG sources. The information in this table is in conformance with VCS requirements for IFM projects. The carbon pools included in the methodology are consistent with those mandated for IFM LtPF projects under the VCS. They are also appropriate in the context of the applicability conditions of the methodology.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

2.3 The methodology shall, provide steps to account for N_2O emissions, unless insignificant[10], if any nitrogen fertilizer and/or manure are applied, or N-fixing species planted, during the crediting period. Note that; Reductions of N_2O and/or CH_4 emissions are eligible for crediting if in the baseline scenario the project land would have been subject to cattle grazing and/or nitrogen fertilization, and/ or if fire would have been used to clear the land or constitutes a cause of forest degradation. (II. Step 3 Determine the Carbon Pools, paragraphs 10 & 11)

Findings from 1 March 2010 Review	N_2O emissions related to fertilization activities are not included in the GHG quantification, as noted on p.6, hence this criterion is not applicable to this methodology.		
Conformance	Yes ☐	No ☐	N/A ☒
CAR/OBS	No CAR/OBS issued		

3 Baseline approach:

3.1 The baseline scenario shall set out the geographic scope as applicable to the methodology. (VCS 2007.1, Section 6.3)

Findings from 1 MARCH 2010 Review	The methodology is applicable only to tropical forests, see first paragraph in Section 3 Applicability. This was found to be appropriate. In the Appendix on p. 54, in the description of the parameter OF, the table includes boreal and temperate forests. It is confusing as to why this information would be included in the methodology, as the methodology only applies to tropical forests. (**OBS 05/10**)		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 05/10**		

3.2 The methodology shall provide a procedure for the selection of most conservative baseline scenario. This shall reflect what most likely would have occurred in the absence of the project. (VCS 2007.1, Section 6.3)

In doing so, the methodology shall provide guidance for the selection or establishment of criteria and procedures for identifying and assessing potential baseline scenarios considering the following:

vi. the project description, including identified GHG sources, sinks and reservoirs;

vii. existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project;

viii. data availability, reliability and limitations;

ix. other relevant information concerning present or future conditions, such as

x. legislative, technical, economic, socio-cultural, environmental, geographic, site specific and temporal assumptions or projections.

Findings from 1 MARCH 2010 Review	The proposed methodology states on p. 20 that: *For all instances of planned timber harvest IFM projects, there must be an immediate site specific forest management agreement or timber harvest plan. This plan must be demonstrated by documentary proof of the following:* *a. Legal permissibility for timber harvest;* *b. Intent to harvest—intention to harvest must be demonstrated by two of the following forms of evidence originating prior to the date of all evidence on pursuit of carbon finance/consideration of IFM:* • *Recent approval, if needed, from relevant government department (local to national) for timber harvesting to commence in the forest land;* • *Bona fide bidding process for the project area that reflects value of the area for timber harvest and with the expressed intent to harvest timber and wood products;* • *Bona fide bidding process for the timber available in the project area that reflects value of the timber and with the expressed interest to purchase timber;* • *A Forest Management Agreement or Forest Management Plan that describes the timber resource and/or the plan for timber harvest.* *The amount planned to be harvested cannot exceed the legal mandate unless common practice in proxy areas shows that the mandates are not enforced.* While this methodological guidance may be helpful for some projects; these provisions are not fully consistent with VCS requirements for baseline setting in IFM LtPF projects. Moreover, they do not ensure that the baseline scenario selected will be the most conservative option for the project case. (**CAR 08/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 08/10**		

3.3 In defining the process for developing the baseline scenario, the methodology shall ensure that the selection of assumptions, values and procedures will help to ensure that

GHG emission reductions or removal enhancements are not overestimated. (VCS 2007.1, Section 6.3)

Findings from 1 MARCH 2010 Review	The methodology attempts to use conservative assumptions whenever possible, to derive the most conservative estimate of GHG reductions possible. However, at several points in the methodology it is unclear how conservative assumptions have been applied. For example, Step 3.1.3 (p.15-19) estimates the carbon stocks in dead wood biomass pools. These estimates do not include the impact of harvesting activities, as it is assumed that: *…planned forest harvest in the baseline scenario will materially increase dead wood stock.* (p.15). It is not explicitly clear that harvesting activities are not included in dead wood biomass pool estimates as a conservative assumption. As per the VCS AFOLU Guidance: *…projects undertaking RIL and LtPF must account for the dead wood pool in their baseline and project case documents. Both of these activities reduce the amount of timber extracted per unit area, which, in turn, reduces the dead wood pool in the project case (fewer trees harvested means less slash, less collateral damage, fewer skid trails etc.).* It is unclear the conservative assumption of not including forest management activity impacts on dead wood pools accounts for potential reductions in carbon stocks in dead wood biomass pools. Additionally, the rationale behind the conservative assumption is not explained. It is the understanding of the audit team that dead wood volumes will differ from year 0 to year X where logging takes place (i.e. the amount of dead wood in the natural state of the forest will not be representative of a situation after logging), so assuming that such volumes remain constant for 10 years could lead to under or over estimations of this pool. Values for the "before" "during" and "after" logging scenarios should be estimated or measured. As per the IPCC 2006 Guidelines: *Amounts of dead wood depend on the time since last disturbance, the type of the last disturbance, losses during disturbances, the amount of biomass input (mortality) at the time of the disturbance (Spies et al., 1988), natural mortality rates, decay rates, and management (Harmon et al., 1986).* (volume 4, chapter 4, page 4.20,) Additionally, the audit team found discrepancies with other conservative assumptions made in the methodology in Step 3 as part of the calculation of GHG emissions associated with baseline activities. On p.30 the methodology states: *For these reasons this methodology recommends to use instead an energy-based accounting approach for all greenhouse gas species emitted from fossil fuel combustion in mobile sources.* *Fuel consumption will be estimated by accessing annual records of fuel purchased and allocated to transport vehicles in a geographically defined*

	reference area in the same forest region where harvesting has occurred no earlier than 10 years from the commencement of the project. It is not clear how this approach may be considered conservative. Emissions from mobile sources are not only dependent on the geographical context, but also on the distance from the forest to the market/sawmill/etc., and this is not taken into account by the methodology – it assumes by default that all operations in a determined region imply the same amount of fuel consumption. (**OBS 06/10)** The methodology goes on to state on p.33: *In this methodology the contribution from changes in carbon stocks resulting from vegetation management and fuel removal are not accounted, as it is the case for the baseline scenario (where only changes in carbon stocks resulting from planned timber harvesting activities are accounted).* *This choice is conservative since the extent of such activities under the baseline scenario (forest subject to commercial harvesting activities) is assumed to be greater than in the project scenario (protected forest).* The VCS requires that emissions from fuel removal and vegetation management should only be excluded from project accounting if they are considered insignificant (subject to the *de minimis* rule – see footnote 25 on p. 19 of the VCS Guidance for AFOLU Projects), otherwise they shall be accounted for. It is not clear how the methodology applies the *de minimis* rule to these emissions sources. (**CAR 09/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 09/10, OBS 06/10**		

3.4 The methodology shall be compatible with the project type specific rules on baseline development specified in the VCS Tool for AFOLU methodological issues (See: II. Step 4, Establish a Project Baseline, paragraphs 13 - 16)

Findings from 1 MARCH 2010 Review	The proposed methodology states on p.11 that: *The baseline scenario shall be determined ex ante on the basis of the following:* *a) Base year stratification specific to the forest region where the project area is located, where available and documented in the existing forest management agreement, or developed by project proponents through sampling in a reference area or a set of proxy areas; and* *b) Detailed planned timber harvest schedule for the project area, developed on the basis of information available in the site-specific forest management agreement which is current at the project start date.* VCS AFOLU documents request project participants to provide the following information to prove that they meet minimum baseline standards for IFM projects: • A documented history of the operator (e.g., operator must have 5 to 10

	years of management records to show normal historical practices). Common records would include data on timber cruise volumes, inventory levels, harvest levels, etc. on the property; and • The legal requirements for forest management and land use in the area; however if these are not enforced then this requirement does not have to be met; and • Proof that their environmental practices equal or exceed those commonly considered a minimum standard among similar landowners in the area. The baseline methodology presented here for IFM projects lacks the inclusion of project management practices projected through the life of the carbon project, satisfying at a minimum the three standards given above. Consequently, the baseline approach is not consistent with the VCS AFOLU for IFM. (**CAR10/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 10/10**		

3.5 The methodology shall estimate the baseline net GHG emissions and removals for each year of the proposed crediting period. (II. Step 4, Establish a Project Baseline, paragraph 17)

Findings from 1 MARCH 2010 Review	The methodology contains provisions to estimate baseline net GHG emissions and removals for each year of the crediting period.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

4 Additionality:

4.1 The methodology shall contain an appropriate and adequate methodological procedure for determining whether the project is additional, and demand sufficient information to be presented in the PDD such that the additionality can be validated by a third party. (VCS 2007.1, Section 6.4)

Findings from 1 MARCH 2010 Review	The methodology recommends the use of the "current" version of the additionality tool approved by the CDM Executive Board, which is supported by the VCS AFOLU project requirements. (**OBS 07/10**)		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 07/10**		

5 Emissions:

This section is divided into ex-ante and ex-post emissions calculations. The ex-post emissions will be calculated as a result of the monitoring which is assessed in section 7 below. There is

also a separate section which assesses the specific requirements as stated in the VCS documentation.

Ex – ante emissions calculation

5.1 The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs for the baseline scenario (ex-ante). (VCS 2007.1 6.5.3)

The assessment should consider:

v. The choice of algorithms/formulae and/or models used and correctness of their application (e.g. mathematical deficiencies, inconsistencies in calculus of dimensions).

vi. The appropriateness (adequacy, consistency, accuracy and reliability) of the parameters provided by the methodology.

vii. The appropriateness of procedures on how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.

viii. Any data gaps.

Findings from 1 MARCH 2010 Review	The methodology provides the required steps for the ex-ante quantification of the baseline scenario. However, the audit team did find multiple specific issues related to the choice of algorithms, the appropriateness of parameters and procedures in the baseline calculations. Use of reference and proxy areas: On p.11 the methodology states: *Periodical adjustments to the baseline shall be established on the basis of monitoring performed on a reference area, or a set of proxy areas that have undergone planned timber harvest. Ex-ante baseline estimations are therefore used in both the ex-ante and ex-post estimation of net carbon stock changes and GHG emission reductions.* These two statements are contradictory and make the methodology unclear (**OBS 08/10**). Reference areas and proxy areas are described multiple times in the methodology, yet it is unclear how these areas are used. For example, in section 2, Step 0 it is stated that a single reference area or multiple proxy areas will be used to calculate the baseline scenario. It is not clear, why, if a harvest plan exists, it is necessary to use a reference area or areas. Reference and proxy areas are mentioned elsewhere in the methodology and in each case ambiguity arises.

On p. 21, it is not clear why it is necessary to plan a harvesting schedule for reference/proxy areas, or what purpose the outcome of this process will be used for. On p. 21, it states that the *planned timber harvesting schedule will be developed…*, but on p. 20, it is stated that one may already exist. There is no guidance on what to do if one exists already. (**CAR 11/10**)

Baseline calculation:

The methodology goes on to state on p. 12:

The net annual change in carbon stocks resulting in year t over the project area is calculated as the change in carbon stock resulting from planned timber harvest minus the amount of carbon sequestered in the harvested wood products

This sentence does not include annual increments of carbon stocks, even though they are considered by the methodology. (**OBS 09/10**)

On p.13 the methodology states:

Based on the availability of data regarding the nature and composition of forest stocks in the project area, stratification will be developed on the basis of either:

a) standard forest management protocols and use existing vegetation mapping or stratification, specific to the forest region where the project area is located, where these are documented in the Forest Management Agreement or Timber Harvest Plan;

b) estimates developed from sampling in a reference area, or a set of proxy areas.

Option a) is confusing and both options are likely to result in less precise estimates than carrying out a direct stratification of the project area. It is unclear why stratification is based on reference or proxy areas and not the project area. (**OBS 10/10**)

It is unclear how the methodology avoids double counting carbon in standing dead trees. The parameter $C_{ab,i,p\ t=0}$ is described on p. 13 as *mean carbon stock per unit area in the above-ground biomass pool at year 0 in the baseline stratum i, in land parcel p, in tC·ha-1*. It is not clear that this parameter does not include standing dead wood, as this is not explicitly stated. If this

	parameter truly represents mean carbon stocks in the aboveground biomass pool, then the addition of the dead wood pool in equation 6 on p.13 would result in the double counting of standing dead wood carbon pools. It is not clear how the double counting of biomass in standing dead trees is avoided by the methodology. (**OBS 11/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 11/10, OBS 08/10, OBS 09/10, OBS 10/10, OBS 11/10**		

5.2 The methodology shall contain procedures that result in a *conservative* estimation of the sum of the baseline emissions within the project boundary that would have occurred in the absence of the proposed VCS project activity (ex-ante), taking into account the uncertainties associated with the data and parameters used. In addition, the procedure shall be designed such that it can be *carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study*.

Findings from 1 MARCH 2010 Review	The findings in section 3.3 above describe several examples of where the methodology does not clearly explain the use of conservative estimates. Additionally, the equations do not follow a clear logic (e.g. Eqn 1 starts with one of the final calculations, and the methodology works backwards, only to end with more high level final calculations. The logic of the equations is difficult to follow. The addition of some parameters that are not included in the logic path of the equations (see Eqn 4, 5, and 6) creates added confusion, and makes the methodology difficult to follow. (**CAR 12/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 09/10, CAR 12/10**		

5.3 The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs for the project scenario (ex-ante). (VCS 2007.1 6.5.3)

The Assessment should consider:

v. The choice of algorithms/formulae and/or models used and correctness of their application (e.g. mathematical deficiencies, inconsistencies in calculus of dimensions).

vi. The appropriateness (adequacy, consistency, accuracy and reliability) of the parameters provided by the methodology.

vii. The appropriateness of procedures on how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.

viii. Any data gaps:

Findings from 1 MARCH 2010	The methodology does not contain a specific section for the estimation of ex-ante (or ex-post) project emissions; it instead refers to the procedures for

Review	baseline estimations that are also applicable to the project case. On p. 32 it points out the following: *Step 4.1 GHG emissions from improved forest management activities* *Improved forest management (IFM) activities implemented in the project scenario could include the following:* • *vegetation management and wildfire protection (through fuel removal from vegetation under storey);* • *patrolling of project boundaries.* The methodology does not include procedures to calculate all emissions associated with project activities. The methodology explains in Step 4.1 that project emissions can be calculated following the guidance for emissions calculation from baseline activities in Step 3. The methodology only provides suggested procedures to estimate carbon stocks in the project area and emissions from the combustion of fossil fuels due to project activities, other potential emissions from changes in carbon stocks due to vegetation management and fuel removal are not (see paragraph 3 of p. 33) accounted for. For example, Eqn 37 on p. 32 calculates the net GHG emissions associated with the implementation of the IFM (project) activities. It is not clear where the variable $GHG_{ifm,t\|LtPF}$ is calculated. Step 4.1 provides description of what could be included, however it is not explicitly shown how this variable is calculated. Additionally, as $GHG_{net,t\|BSL}$ includes both forest biomass carbon stocks and GHG emissions from harvest activities, it is unclear if $GHG_{ifm,t\|LtPF}$ also includes forest biomass carbon stocks in addition to GHG emissions associated with IFM project activities. It is confusing as this information is not included until the following section. Step 4.1 on page 33 states that: *In this methodology the contribution from changes in carbon stocks resulting from vegetation management and fuel removal are not accounted, as it is the case for the baseline scenario (where only changes in carbon stocks resulting from planned timber harvesting activities are accounted).* *This choice is conservative since the extent of such activities under the baseline scenario (forest subject to commercial harvesting activities) is assumed to be greater than in the project scenario (protected forest).* If forest biomass carbon stocks are not included in the calculation of $GHG_{ifm,t\|LtPF}$ it would appear that this equation would most likely result in a negative value for $GHG_{net,t\|LtPF}$. As this number is then used to calculate the number of VCUs in Eqn 41, it would result in a negative number of VCUs which is confusing. (**CAR 13/10**) Additionally, it appears that parentheses should be added to the equations in order to correctly apply the $GHG_{leakage,t\|LtPf}$: $GHG_{net,t\|LtPF} = GHG_{ifm,t\|LtPF} - (\ GHG_{net,t\|BSL} + GHG_{leakage,t\|LtPf}\ )$ (**OBS 12/10**)
Conformance	Yes ☐ No ☒ N/A ☐
CAR/OBS	**CAR 13/10, OBS 12/10**

5.4 The methodology shall contain procedures that result in a *conservative* estimation of the sum of the project emissions within the project boundary (ex-ante), taking into account the uncertainties associated with the data and parameters used. In addition, the procedure shall be designed such that it can be carried out in an *unambiguous way, replicated, and subjected to a validation and/or verification study*.

Findings from 1 MARCH 2010 Review	As stated in section 5.3 above, the methodology does not contain specific procedures to estimate project emissions, therefore it is not possible to assess if they are conservative or not.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 13/10**		

5.5 The methodology shall provide steps to calculate the net GHG benefit of the project ex ante. The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emission reductions and removal enhancements during project implementation. GHG emission reductions or removal enhancements shall be quantified as the difference between the GHG emissions and/or removals from GHG sources, sinks and reservoirs relevant for the project and those relevant for the baseline scenario. (VCS 2007.1 6.5.3)

Note, an ex-ante calculation of the net carbon benefits of the project is only required to determine whether decreases in carbon pools or increases in GHG emissions are insignificant and need not be measured and monitored. (II. Step 0, paragraph 1)

Findings from 1 MARCH 2010 Review	The net GHG benefit of the project is estimated as part of Eqn 37. However, confusion exists in the calculation method of Eqn 37, as it appears $GHG_{net,t\mid LtPF}$ would be a negative number. As this parameter is used in equation 41 to calculate the total number of VCUs issued, it would appear that a negative amount of VCUs would be calculated. (**OBS 13/10)**		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	**OBS 13/10**		

5.6 All significant GHG sources and leakage shall be measured, estimated and monitored in both the baseline and project case. Certain GHG sources may be considered "insignificant" and do not have to be accounted for if together such omitted decreases in carbon pools and increases in GHG emissions amount to less than 5% of the total CO2-eqbenefits generated by the project. Pools can be omitted if their exclusion leads to conservative estimates of the number of carbon credits generated. (II. Step 0, paragraph 2 and 3)

Findings from 1 MARCH 2010 Review	This methodology uses the Tool for testing significance of GHG emissions in A/R CDM project activities, as described in Step 1.4 on p.6: *Any one of these sources shall be neglected, i.e., accounted as zero, if the*

	application of the most recent version of the "Tool for testing significance of GHG emissions in A/R CDM project activities" leads to the conclusion that the emission source is insignificant. In addition, the sum of decreases in carbon pools and increases in emissions that may be neglected shall be less than 5% of the total project GHG benefits (VCS, 2007.1).		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued.		

Ex-Post Emissions Calculation

5.7 The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs for the baseline scenario (ex-post). (VCS 2007.1 6.5.3)

The assessment should consider:

v. The choice of algorithms/formulae and/or models used and correctness of their application (e.g. mathematical deficiencies, inconsistencies in calculus of dimensions).

vi. The appropriateness (adequacy, consistency, accuracy and reliability) of the parameters provided by the methodology.

vii. The appropriateness of procedures on how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.

viii. Any data gaps.

Findings from 1 MARCH 2010 Review	On p. 38 of the methodology, it states: *Where data used in ex ante estimation of carbon stocks is of low precision, or where a more accurate stock change estimate is desired by the project proponent. Carbon stock change will be monitored during the first crediting period. Where more accurate data becomes available, for example through biomass inventory, these will be used to estimate the net anthropogenic GHG emission reduction of the subsequent crediting period.* It is not clear why revised, more accurate data is used in only subsequent "crediting periods". The use of revised data does not appear to be applied to adjust past crediting period. If the baseline is revised because of a lack of certainty regarding its ex ante estimation, the revised values are used to estimate the carbon benefits of only the subsequent monitoring periods, and not only of the initial period. This could be lead to the issuance of credits with reductions that might not be real. (**CAR 14/10**) Additionally, see **CAR 07/10** regarding the crediting period above, regarding the use of multiple crediting periods. The monitoring section has no instructions on how to monitor for losses to the carbon stocks that are being conserved. There is a brief mention on p. 38 that

	changes need to be measured in plots, but this is vague, and there is no mechanism for feeding back the results into the calculations of ex-post VCUs. It is unclear how the inventory data collected during the monitoring of project activities described in Step 5 of p. 36 feeds back into the equations of the methodology. The monitoring Plan does not describe how to input the information collected into the equations. Additionally, Appendix 2 beginning on p. 62, and the described parameters within, provides descriptions of the parameters used in monitoring. However, this appendix is not cited in the text of Step 5 (or anywhere else in the methodology), making it difficult to follow how these parameters are applied. (**CAR 15/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 14/10, CAR 15/10**		

5.8 The methodology shall contain procedures that result in a conservative estimation of the sum of the baseline emissions within the project boundary that would have occurred in the absence of the proposed VCS project activity (ex-post), taking into account the uncertainties associated with the data and parameters used. In addition, the procedure shall be designed such that it can be carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study.

Findings from 1 MARCH 2010 Review	Please refer to section 3.3 for a discussion of potential issues related to the conservativeness of the baseline estimations. The methodology applies the same procedure for the estimation of ex-ante and ex-post project emissions, with the difference that the latter are calculated based on monitored emissions and changes in carbon stocks. As mentioned before, this estimation is limited due to the lack of clarity regarding project activities and the procedures to estimate them. Please see the findings and CARs related to monitoring in section 5.7 above, and ex-ante calculation of project activity emissions.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	Please see CARs related to monitoring and the ex-ante calculation of project activity emissions.		

5.9 The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs for the project scenario (ex-post). (VCS 2007.1 6.5.3)

The Assessment should consider:

v. The choice of algorithms/formulae and/or models used and correctness of their application (e.g. mathematical deficiencies, inconsistencies in calculus of dimensions).

vi. The appropriateness (adequacy, consistency, accuracy and reliability) of the parameters provided by the methodology.

vii. The appropriateness of procedures on how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.

viii. Any data gaps:

Findings from 1 MARCH 2010 Review	The methodology applies the same procedure for the estimation of ex-ante and ex-post project emissions, with the difference that the latter are calculated based on monitored emissions and changes in carbon stocks. As mentioned before, this estimation is limited due to the lack of clarity regarding project activities and the procedures to estimate them. Please see the findings and CARs related to monitoring in section 5.7 above, and ex-ante calculation of project activity emissions.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	Please see CARs related to monitoring and the ex-ante calculation of project activity emissions.		

5.10 The methodology shall contain procedures that result in a conservative estimation of the sum of the project emissions within the project boundary (ex-post), taking into account the uncertainties associated with the data and parameters used. In addition, the procedure shall be designed such that it can be carried out in an unambiguous way, replicated, and subjected to a validation and/or verification study.

Findings from 1 MARCH 2010 Review	The methodology applies the same procedure for the estimation of ex-ante and ex-post project emissions, with the difference that the latter are calculated based on monitored emissions and changes in carbon stocks. As mentioned before, this estimation is limited due to the lack of clarity regarding project activities and the procedures to estimate them. Please see the findings and CARs related to monitoring in section 5.7 above, and ex-ante calculation of project activity emissions.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	Please see CARs related to monitoring and the ex-ante calculation of project activity emissions.		

5.11 The methodology shall provide steps to calculate the net GHG benefit of the project ex-post. The methodology shall state the criteria, procedures and/or methodologies (calculation steps) for quantifying GHG emission reductions and removal enhancements during project implementation. GHG emission reductions or removal enhancements shall be quantified as the difference between the GHG emissions and/or removals from GHG sources, sinks and reservoirs relevant for the project and those relevant for the baseline scenario. (VCS 2007.1 6.5.3)

Findings from 1 MARCH 2010 Review	The methodology applies the same procedure for the estimation of ex-ante and ex-post project emissions, with the difference that the latter are calculated based on monitored emissions and changes in carbon stocks. As mentioned before, this estimation is limited due to the lack of clarity regarding project activities and the procedures to estimate them. Please see the findings and CARs related to monitoring in section 5.7 above, and ex-ante calculation of project activity emissions.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	Please see CARs related to monitoring and the ex-ante calculation of project activity emissions.		

5.12 The methodology shall provide the steps for calculating the number if VCUs to be issued at any given verification event, considering net GHG reductions, leakage, risk buffer credit deduction and any other deductions or alternations that may be needed.

Findings from 1 MARCH 2010 Review	A Methodology must have a flow of calculations that lead to the number of VCUs that should be issued to the project at any one monitoring event (remembering that it may have been more than one year since the last monitoring event) and the number of VCUs that must be submitted to the buffer account. Eqn 41 attempts to quantify the number of VCUs that should be issued. However, the method used is to subtract the net annual GHG benefits of the project in the previous year from the net annual GHG benefits of the project in the year of monitoring. The logic behind this calculation is not apparent. Eqn 41 presents a calculation to calculate "*The number of Voluntary Carbon Units"*. However this equation does not include the leakage factor (calculated in Eqn 40), the risk buffer credit adjustment (calculated in Eqns 42 and 43). It should be noted that, the actual number of VCUs to be issued (pre buffer deduction) is actually calculated in Eqn 43 where a deduction for uncertainty is included. This could lead to some confusion and in Eqn 43 the VCU* parameter is not defined. This is not consistent with the VCS. According to the VCS AFOLU Guidance: *When calculating the number of carbon credits that should be issued to a given project, the tradable credits (VCUs) are estimated by subtracting out the leakage from the total estimated "credits" and then subtracting out the non-permanence buffer* (page 24). It is not clear how the actual number of VCUs issued, including the leakage factor and the risk buffer credit adjustment, is calculated. (**CAR 16/10**)

Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 16/10**		

VCS Specific Requirements for Emissions (ex-ante and ex-post)

5.13 Based on selected or established criteria and procedures, the methodology shall enable the quantification of GHG emissions and/or removals separately for:

iii. each relevant GHG for each GHG source, sink and/or reservoir relevant for the project; and

iv. each GHG source, sink and/or reservoir relevant for the baseline scenario. (VCS 2007.1 6.5.2)

Findings from 1 MARCH 2010 Review	The methodology provides procedures to estimate each relevant GHG, source and sink both in the baseline and project scenarios.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

5.14 When highly uncertain data and information are relied upon, the methodology shall ensure the selection of assumptions and values available to the project developer do not lead to an overestimation of GHG emission reductions or removal enhancements. (VCS 2007.1, 6.5.2)

Findings from 1 MARCH 2010 Review	The methodology contains provision to revise ex-post data considered uncertain or potentially inaccurate based on measurements. However, as noted in section 5.7 above, it is not clear how revised data is applied to earlier monitoring periods.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 15/10**		

5.15 The methodology shall estimate GHG emissions and/or removals by GHG sources, sinks and reservoirs relevant for the project and relevant for the baseline scenario, but not selected for regular monitoring. (VCS 2007.1, 6.5.2)

Findings from 1 MARCH 2010 Review	The methodology complies with this requirement		
Conformance	Yes ☐	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

5.16 The methodology shall establish and apply criteria, procedures and/or methodologies to assess the risk of a reversal of a GHG emission reduction or removal enhancement (i.e. permanence of GHG emission reduction or removal enhancement) (VCS 2007.1, 6.5.2).

Findings from 1 MARCH 2010 Review	The methodology does not contain criteria, procedures or methods to assess the risk of reversal. In Step 4.3 section a on p.35 states: *The estimated cumulative net anthropogenic GHG emission reductions shall be adjusted to account for uncertainty. These VCUs will then be subject to deductions based on:* *a) the risk analysis described in the VCS guidelines* The VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination is cited on p.4 of the methodology, but it is not cited in section 4.3. (**CAR 17/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 17/10**		

5.17 If applicable, the methodology shall provide guidance for the selection or development of GHG emissions or removal factors that:

vi. are derived from a recognized origin;

vii. are appropriate for the GHG source or sink concerned;

viii. are current at the time of quantification;

ix. take account of the quantification uncertainty and are calculated in a manner intended to yield accurate and reproducible results; and

x. are consistent with the intended use of the VCS PD or monitoring report as applicable (VCS 2007.1, 6.2.5).

Findings from 1 MARCH 2010 Review	Appendix A of the methodology contains a list of parameters and data not monitored in the methodology. Included in this list are multiple conversion factors obtained from various sources, listed in the tables beneath each of the factor. These tables include a step by step process for the selection of some of the factors (see $BCEF_j$ on p. 43). However, not all of the factor tables include instructions or guidance for ensuring that the factors are current at the time of the quantification (see $CF_{ab,j}$ on p.45). As the project crediting period for this methodology can range between 20 and 100 years, it is important that the methodology include instructions and/or guidance on how to update conversion factors applied during the calculation of project activity emissions over the course of the project lifetime. (**CAR 18/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 18/10**		

5.18 The methodology shall use metric tonnes as the unit of measure and shall convert the quantity of each type of GHG to tonnes of CO_{2e} using appropriate global warming potentials.

Findings from 1 MARCH 2010 Review	The methodology complies with this requirement.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

5.19 The methodology shall be compatible with the project type specific rules in the VCS Tool for AFOLU methodological issues for the estimation and monitoring of GHG benefits (See II. Step 6, Estimate and Monitor net GHG Benefits, paragraphs 28, 29, 30 & 31)

Findings from 1 MARCH 2010 Review	No project type specific rules apply to IFM LtPF projects.		
Conformance	Yes ☐	No ☐	N/A ☒
CAR/OBS	Not applicable to this methodology		

Quality Control and Uncertainty (ex-ante and ex-post)

5.20 The IPCC 2006 Guidelines shall be followed in terms of quality assurance/control and uncertainty analysis. (II. Step 6, Estimate and Monitor net GHG Benefits, paragraph 31)

Findings from 1 MARCH 2010 Review	Step 4.3 provides guidance on the quantification of uncertainty. The methodology follows an approach similar to that of the 2006 Guidelines and proposes discounts of VCUs based on the assessment of uncertainties.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

5.21 The methodology shall provide guidance for the establishment and application of quality management procedures to manage data and information, including the assessment of uncertainty, relevant to the project and baseline scenario. (VSC 2007.1, 6.5.4)

Findings from 1 MARCH 2010 Review	Step 5 of the methodology requests the standard operating procedures (SOPs) and quality control/quality assurance (QA/QC) procedures be applied and recommends those included in the IPCC 2003 Good Practice Guidance. Additionally, this step includes guidance on the management of data and information.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

6 Leakage:

The methodology shall contain an approach for calculating leakage that is appropriate and adequate.

6.1 Leakage is defined by The VCS Tool for AFOLU Methodological Issues as, "any increase in greenhouse gas emissions that occurs outside a project's boundary (but within the same country), but is measurable and attributable to the project Activities". Its effects on all carbon pools shall be assessed and significant effects taken into account when calculating net emission reductions. Accounting for positive leakage is not allowed. (II. Step 5, Assess and Manage Leakage, paragraph 18)

The methodology shall assess and account for leakage in accordance with the project type specific rules in VCS Tool for AFOLU methodological issues (II. Step 5, Assess and Manage Leakage, paragraphs 20, 21, 22)

The methodology shall identify all possible leakage sources and provide mathematically correct procedures to quantify their effect on the net GHG benefits of the project.

Findings from 1 MARCH 2010 Review	In Step 4.3 of the methodology on p. 33 where leakage is quantified ex-ante, it is acknowledged that there are different types of agents that could have been the deforestation agents in the baseline scenario. The term "agent" is not defined in the methodology (see **CAR 03/10**). (**OBS 14/10**) The methodology then states: *The VCS states that IFM project developers must demonstrate that there is no leakage within their operations – i.e., on other lands they manage/operate outside the boundary of the VCS activity – or otherwise make appropriate adjustments to the net carbon benefits of the project accordingly.* It is not clear how the methodology calculates activity shifting leakage. The methodology does not present a clear methodology to identify and quantify activity shifting leakage as a result of project activity. (**CAR 19/10**) It is not clear how activity shifting leakage is handled if the project proponent is not the one who was going to harvest. It is only activity shifting leakage if the project proponent has no access to other forest land (i.e. they are a conservation NGO) then only market leakage is calculated. However, the clause (top of p. 34) describing this scenario is difficult to understand as currently written. (**OBS 15/10**) In Step 4.2 of the methodology on p. 34 it states: *Leakage due to market effects is equal to the net emissions from planned timber harvest activities in the baseline scenario multiplied by an appropriate leakage factor* Market leakage discounts do not consider the "gross" GHG benefits of the project, but rather focus on the net GHG benefits (which by definition are adjusted for leakage) or the GHG baseline emissions, as the proposed methodology states. This may result in a miss-calculation of leakage associated with project activities It is not clear how market leakage is calculated when NCS data is unavailable. The methodology defines NCS in Appendix 1 p. 60. The definition refers to

	table 4.7 of 2006 IPCC Guidelines for National Greenhouse Gas Inventories, to obtain NCS. However, the table referred to contains national averages presented as tones d.m. ha^{-1}, and the table in the methodology appendix presents NCS as t CO_2e ha^{-1}. (**CAR 20/10**) The methodology goes on to state on p.34: *If the following conditions will be demonstrated by project proponents as part of the documentation submitted with the VCS-PD: illegal logging is absent (or de minimis) in the host country.* It is not clear how *de minimis* is defined in this context. The methodology does not describe what *de minimis* refers to (project emissions, country emissions, etc.). (**OBS 16/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 03/10, CAR 19/20, CAR 20/10, OBS 14/10, OBS 15/10, OBS 16/10**		

6.2 The methodology shall account for market leakage if timber production is significantly affected, even if the illegal production is prevented or reduced. (II. Step 5, Assess and Manage Leakage, paragraphs 23, 24, 25, 26 and 27)

Note that the VCS provides a default table of market leakage deductions that can be referenced by a methodology.

Findings from 1 MARCH 2010 Review	The methodology proposes an approach consistent with the default table of market leakage deductions included in the VCS AFOLU Methodological Tool		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

7 Monitoring:

7.1 The methodology shall select or establish criteria and procedures for selecting relevant GHG sources, sinks and reservoirs for either regular monitoring or estimation (VCS 2007.1, S6.5.1).

Findings from 1 MARCH 2010 Review	The methodology provides criteria and procedures for selecting relevant GHG sources, sinks and reservoirs.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CAR/OBS issued		

7.2 The methodology shall contain a procedure to monitor and document the implementation of the project on land areas within the project boundary.

Findings from 1 MARCH 2010	The methodology does not include a clear, executable monitoring plan. The descriptive overview of the monitoring procedures provided in Step 5 is

Review	insufficient, and does not provide adequate procedural guidance to project developers. This section puts the responsibility of developing a specific monitoring plan on the project developer, with little guidance as to how to develop a monitoring plan that will be able to accurately monitor and document the implementation of the project. Moreover, the procedures in this section do not clearly explain how ex post calculations are feed back into the methodology (see section 5.7 above). For example, it is unclear how ex-post calculations will incorporate carbon stock losses from natural disturbance, if carbon stock losses from fire are excluded from the methodology (**CAR 21/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 15/10, CAR 21/10**		

7.3 The methodology shall contain appropriate and correct sampling design procedures for the ex-post calculation of actual GHG emissions and determination of the ex-post baseline GHG emissions by sinks (if required). The sampling design may, include determination of number of plots, and plot distribution, etc.

Findings from 1 MARCH 2010 Review	The methodology provides some guidance on sampling of reference areas, proxy areas, and project areas that apply to the monitoring plan that creates some confusion. The use of sample plots throughout the methodology is unclear. Specifically, it is not clear how the use of sample plots is applied to mean values of land parcels. In Step 3.1 on p. 19, the methodology states: *The appropriate mean carbon stock per unit area for the two components of standing and lying dead wood will be selected for each land plot p in the project area by matching the values calculated for the representative sample plot sp.* It is not clear how the land parcel "p" and sample plot "sp" are used to calculate the mean value. It appears as though one sample plot is used per land parcel (see Eqn 16). Using one sample plot per land parcel, may not be sufficient in heterogeneous forests. The CDM tool is used to calculate sample plots. As stated in the methodology page 5: *To determine the sample size and allocation among strata, this methodology must use the latest version of the CDM tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities". The targeted precision level for aboveground biomass estimation across the project is +/- 10% of the mean at a 90% confidence level. However, for this IFM methodology framework, temporary plots are permissible in contrast to the CDM methodology.* However, it is not clear how the equations will handle multiple sample plots in one land parcel. This jump from sample plot level to stratum, to land parcel is unclear. Furthermore, the quote above states that temporary plots are permissible, however on p. 14 the methodology states: *If aboveground biomass increment is monitored in the project, plots must be permanent.*

	This inconsistency causes additional confusion in the application and use of sample plots in the methodology. (**CAR 22/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 22/10**		

7.4 The monitoring plan in the methodology shall be compatible and consistent with the proposed baseline methodology and be described in an adequate and transparent manner.

Findings from 1 MARCH 2010 Review	As the monitoring plan currently relies on the ex ante calculation methodology, it is currently compatible with the baseline methodology. However, as noted in section 5.7, 7.2 and 7.3 above, the monitoring is not described in an adequate and transparent manner.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 15/10, CAR 21/10, CAR 22/10**		

Note: The monitoring methodology and results will determine the ex-post emissions estimation for the baseline, project emissions and leakage which are assessed in the sections above.

8 Data and parameters:

8.1 The methodology shall have appropriate procedures for how project participants should select any parameters in cases where these are not provided in the methodology (e.g. from official statistics, expert judgment, proprietary data, IPCC Good Practice Guidance for LULUCF, commercial data and scientific literature.)

Findings from 1 MARCH 2010 Review	In some cases where parameters are used that are obtained from the literature, the methodology provides guidance as to how to obtain the data (See $CF_{ab,j}$ on p.45), or when project proponents are required to select appropriate parameters relevant to forest type (see $BCEF_j$ p.43) guidance is given as to how to select the correct conversion factor, as well as how to calculate it when the data is unavailable. However, there is not a clear linkage to the information on parameters in Appendix 1, and the actual text of the methodology, making it difficult for project proponents to identify this helpful information. (**OBS 17/10**) Additionally, the methodology provides some guidance on the application of BCEF (see box on p. 14) and the selection of BCEF in the appendix on p. 43. However, it is not explicitly clear within the text (though it is noted in bold in the appendix) that specific care project developers need to take when using BCEFs with only merchantable tree volumes. (**OBS 18/10)** Additionally, the methodology does not always provide guidance on how to obtain all data, when data may be difficult to obtain. For example, on page 33 it is stated that,

	Emissions from combustion of fossil fuels in forestry machinery/equipment and transport vehicles employed in improved forestry management activities will be accounted following the same methodology outlined step 3.4 for the baseline scenario. It is not clear what a project proponent would do if it was not possible to obtain appropriate reference data. (**CAR 23/20**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 23/10, OBS 17/10, OBS 18/10**		

8.2 The methodology shall present equations in a clear, consistent, mathematically correct format which allows data to be traced through them.

Findings from 1 MARCH 2010 Review	<u>Equation accuracy:</u> Throughout the methodology numerous equations are calculated incorrectly. For example, Eqn 7, on p. 15 of the methodology is not accurate, since it multiplies the BCEF by the Wood Density, when BCEF already considers wood densities (since it is defined as: BCEF = BEF * D). This is also seen in Eqn 10 on p. 17, where the parameter $B_{sdw,l,j,l,sp,t}$ is calculated. The text states that this formula is based on the formula for the volume of a "frutrum" (which is presumed to be a typo for "frustum"), however it is not clear how this equation was derived. Eqn 20 is unclear. $R_{i,\ p,\ lBSL}$ is not defined and it is not mathematically correct to dived 100% by something. Eqn 27 calculates the biomass sequestered in wood products. It is suspected that errors exist in the presentation of this equation. The three carbon fractions have units of, "%", and therefore is it not appropriate for them to be subtracted from, "1" as occurs in the equation. It is also suspected that the three bracketed components on the right-hand side of the equation should be summed and then multiplied by $C_{hb,k,l,p,t\ BSL}$, as opposed to being multiplied in series as currently shown. Eqn 42 calculates the total uncertainty for IFM-VCS projects. It is unclear how the term % is being applied in the parameter description. Additionally, it appears that $U_{\mid LtPF}$ is repeated below the equation, and $U_{\mid BSL}$ is not included. (**CAR 24/10**) <u>Parameter derivation:</u> There is insufficient guidance provided on how growth and re-growth data should be gathered for use in step 3.2.3. Growth, in this case would only apply to the increase in the trees that were going to be harvested (which is a sub-division of the total above-ground tree biomass in the forest), therefore it will not be appropriate to source data intended to show growth of all forest above-ground tree biomass. The assumption that all forests are indefinitely increasing in biomass is not defended, nor is there any consideration of natural losses to the pool of carbon that would be harvested. Likewise there is insufficient

guidance on the selection of re-growth data.

On p. 24 it is stated that,

As a default procedure, growth in undisturbed forest could be estimated ex ante, by dividing the estimate of carbon stocks per unit area in mature forests within the region considered by the duration of the forest rotation as defined in the site-specific Forest Management Agreement.

It is not clear how this calculation would yield a value for growth for undisturbed forests. (**CAR 25/10**)

Equation linkage:

At multiple points in the methodology, it appears that steps in the methodology are missing, and the derivation of parameters used within equations is not clear. For example, Eqn 3 on p.12 uses two variables to calculate $\Delta C_{net,t|BSL}$. The first variable, $\Delta C_{harvest,t|BSL}$ is calculated in Eqn. 17, however it is not clear where $C_{wp,t|BSL}$ is calculated. Step 3 uses two options to calculate $C_{wp,,i,p,t|BSL}$, however $C_{wp,,i,p,t}$ is not summed for all stratum (i) or all land parcels (p). There appears to be a missing step in the calculation of $C_{wp,,i,p,t|BSL}$.

Additionally, it is unclear as to how equations 4, 5 and 6 are used in the methodology. This grouping of equations is not integrated into the methodology. (**CAR 26/10**)

Parameter labeling:

The methodology does not consistently label all parameters. In multiple cases the use of subscripts is inaccurate, or inconsistent. For example, the definition of the subscript "$_p$" is inconsistent and causes confusion. On p. 15 "$_p$" is defined as "land plot", where in most cases "$_p$" is defined as "land parcel" as in Eqn 4 on p. 12. Also, when the units of parameters are expressed, the following format is used, "t_c year^{-1}". The 'C' should not be a subscript as this does not follow normal scientific practice for documenting units. In other cases the subscripts used in the parameters do not match with those in the list below (See Eqn 18, 27, 35, 37).

In some cases the descriptions of parameters was found to be ambiguous. For example, $C_{ab,\ l,\ splt=0}$ is described as, "mean carbon stock per unit area in above-ground biomass…." yet it is actually only the carbon stock in a sub-set of trees that were deemed commercial or merchantable.

Additionally, the methodology inconsistently includes definitions of parameters following equations. For example, some equations do not include any descriptions of the parameters used, as seen in Eqn 16 on p. 19 of the methodology. Other Eqns do not include definitions of all of the parameters used in the equation, as seen in Eqn 29 on p. 27, which does not include a definition of $C_{hp,k,i,p,t,|BSL}$. This is quite prolific throughout the methodology.

In some cases the parameter description is missing the units (See $DBH_{sdw,l,j,l,p,t}$

	in Eqn 12). In some cases there appears to be typos in the parameters listed below the equations (See absence of regrowth beneath Eqn 25,). And, in some cases parameters are listed below that are not in the equation above (See Eqn 30,) Additionally, in the parameter description of $R_{i,p\|BSL}$ it appears that there may be an incorrect reference to Step 3.1.3, as this parameter is calculated in Step 3.2.2. The numerous errors and inconsistencies within the methodological equations make it difficult to follow the methodology. (**CAR 27/10**) <u>Accuracy of appendix references:</u> The tables within the appendices contain numerous errors. Below a few of these errors are highlighted. The parameter tables in the appendices do not always include accurate references to equations (see LDF on p. 59 which is said to be included in Eqn 31; and NCS on p. 60 which is said to be included in Eqn 28); or contain inconsistent unit labeling between the parameter table and the application of the parameter in the methodology (see NCS p. 60 where the units are different from those listed in the text on p. 35). Also, see p. 54, OF is not in equations 18 or 20, it is used in Eqn 27, although due to a typo it is not listed below the equation (note also the description of this parameter does not mention that it is for a specific wood product, *k*.). (**CAR 28/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 24/10, CAR 25/10, CAR 26/10, CAR 27/10, CAR 28/10**		

9 Adherence to the project-level principles of the VCS Program:

The methodology shall adhere to the project-level principles of the VCS Program (VCS 2007.1, 5.1), summarised below and the full principals at the top of this report.

9.1 The methodology shall be compatible with the VCS project level principles, as explained in more detail in section 1.3 of this report. These principles are relevancy, completeness, consistency, conservativeness, accuracy, transparency and conservativeness.

Findings from 1 MARCH 2010 Review	The methodology partially complies with the VCS project level principles. However, the methodology was found not to clearly demonstrate a transparent flow of equations through which VCUs resulting from project activities are calculated. There was additional concern with the insufficient presentation of the monitoring section (Step 5), and the numerous errors embedded in the methodological calculations.		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	See the list of CAR and OBS		

10 Special case of previous rejection from other GHG program

10.1 Methodologies rejected by other GHG Programs, due to procedural or eligibility requirements where the GHG Program applied has been approved by the VCS Board; can be considered for VCUs but Methodology Developers in this case shall:

iv. document the methodology; and

v. clearly state in its VCS PD all GHG Programs for which the methodology has applied for approval and why the methodology was rejected, such information shall not be deemed commercially sensitive information; and

vi. provide the VCS Program verifier with the actual rejection document(s) including explanation of why the methodology was rejected (VCS 2007.1, S6.1).

Findings from 1 MARCH 2010 Review	The audit team is not aware of any other programs that this methodology has been rejected from.		
Conformance	Yes ☐	No ☐	N/A ☒
CAR/OBS	Not applicable to this methodology.		

11 Public Review

11.1 The Methodology shall be posted for public comment in accordance with VCS guidelines. The methodology developer shall demonstrate how it has taken due account of all and any such comments.

Findings from 1 MARCH 2010 Review	Two public comments have been posted on the VCS website, one by Carbon Planet and the other by Brinkman and Associates Reforestation Ltd.. The Carbon Planet review found 21 CARs (see attached file). The Brinkman and Associates Reforestation Ltd. Noted 26 findings specific to the methodology. As the comments were posted after the beginning of the methodological review, GreenCollar Climate Solutions has not had the opportunity to address the public comments yet. (**CAR 29/10**)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	**CAR 29/10**		