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Validation Report

with statement on the second validation findings

Enterprise

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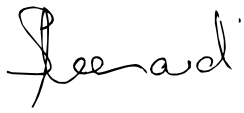
Service

Validation:	VCS 2007.1 Methodology Validation
Validation beginning/end:	24/01/2011 to 16/08/2011
Project name:	ADP REDD Methodological Module Revision
GBZ / Report-No:	322245/P30918.33
Team of auditors/assessors	Mr Oliver Stankiewitz
Technical Expert	Mr David Gazdag

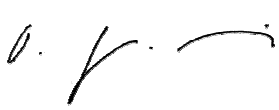
Approved	**Date**	**Signature**
Lead auditor/assessor: Oliver Stankiewitz	15/08/2011	
Technical review: Oliver Gardi	15/08/2011	
Member of the Executive Board: Silvio Leonardi	16/08/2011	

Summary

In summary, it is SQS's opinion that the proposed VCS methodology revision „VM0007 REDD Methodology Modules" done by The Field Museum meets all relevant VCS requirements for VCS methodologies and VCS AFOLU projects.

The revision incorporated the population driver approach into the „VM0007 REDD Methodology Modules" without changing the overall structure of the modular methodology. The population driver approach establishes the baseline based on the local (Reference region for projecting rate of deforestation) population dynamics and the local forest area that is cleared per additional person entering the population.
Above the completely revised Baseline Module for Unplanned Deforestation (**BL-UP** [2]), only the REDD Methodology Framework (REDD-MF [1]) has been amended with the baseline revision if new official population census data and/or projections become available. In the BL-UP module, the original approach – now called simple historic - remained as an unaltered option.
The revised Methodology in its final form is in line with the Verified Carbon Standard 2007.1 [8] the Tool for AFOLU Methodological Issues [9] and the Guidance for Agriculture, Forestry and Other Land Use Projects [11].

SQS recommends the methodology for approval by VCS.

Work carried out by:	Date	Signature
Oliver Stankiewitz	15/08/2011	
Technical Review by:	Date	Signature
Oliver Gardi	15/08/2011	

Abbreviations

AFOLU	Agriculture, Forestry and Other Land Use
APD	Avoiding Planned Deforestation
AUDD	Avoiding unplanned deforestation and degradation
AUFDD	Avoiding unplanned frontier deforestation and degradation
AUMDD	Avoiding unplanned mosaic deforestation and degradation
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CH4	Methane
CL	Clarification request
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
DNA	Designated National Authority
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
N2O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
PD	Project Description
REDD	Reduced Emissions from Deforestation and Degradation
RRD	Reference region for projecting rate of deforestation
RRL	Reference region for projecting location of deforestation
SQS	The Swiss Association for Quality and Management Systems (validator)
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCSA	VCS AssociationVCS PD VCS Project Description
VCU	Verified Carbon Unit

Table of Content

1 Introduction

The Field Museum has commissioned SQS to perform the validation of the revision of the „VM0007 REDD Methodology Modules" (hereafter called "the Methodology") that introduced the population driver approach (see 1.3.). It is the first validation within the VCS double approval process, without VCS registered AFOLU expert. This report summarises the findings of the validation of the Methodology, performed on the basis of the specifications of the Verified Carbon Standard 2007.1, as well as criteria given by the VCS program guidelines that provide the basis for consistent project operation, monitoring and reporting, validation and verification.
Every case where the Methodology has not changed and, therefore, has not required re-assessment was cross-checked. Clear statement is given in the report and in the Protocol as required by the VCS normative document. [21.]
The validation was carried out respecting and following the applicable VCS standard and guidelines, including the requirements of ISO 14064-3:2006 [13]; the necessary professional care has been taken by all assessment team members, and professional judgement has lead the team regarding materiality and level of assurance. Redundant statements were omitted in this report (including its attached protocol) as far as possible; however, all proofs of this validation are kept archived at SQS.

1.1 Objective

The purpose of the validation is to have an independent third party assessment of the Methodology revision. In particular, the methodology's guidance for baseline determination, monitoring plan, and compliance with the VCS 2007.1 are validated in order to confirm that the methodology design, as documented, is sound and reasonable and meets the identified criteria. The VCS double approval process, for all VCS methodologies is seen as necessary to provide assurance to stakeholders of the quality of the methodologies.
The VCS requires for GHG emission reduction methodology the fulfilment of the following principles; as listed from VCS program guidelines:

- Real; ex-post verification methodology of emission reduction
- Measurable; ex-ante validation methodology of emission reduction
- Permanent; i.e. adequate safeguards must ensure that the risk of reversal of emission reduction is minimized in the methodology
- Additional
- Independently verified; ex-post verification at a reasonable level of assurance included in the methodology
- Transparent; public disclosure of sufficient and appropriate GHG related information in the methodology
- Conservative methodology; i.e. to ensure that the GHG emission reductions or removals are not over-estimated

1.2 Scope

The validation scope is defined as an independent and objective review of the Methodology. The Methodology is reviewed against the criteria stated in the VCS 2007.1 [8], in the VCS Tool for AFOLU Methodological Issues [9] and in the VCS Guidance for Agriculture, Forestry and Other Land Use Projects [11].

The validation team has employed a risk-based approach, focusing on the identification of significant risks that may substantially affect the Methodology's assessment of GHG emission reductions, i.e. risks associated with the defined procedures, assumptions made and GHG information used.
The purpose of this validation report is to make a statement if the Methodology fulfils all requirements based on the criterias described above. Hence, SQS cannot be held liable by any party for decisions made based on the validation, which will go beyond the purpose mentioned.

1.3 VCS Methodology Description

The Methodology itself is a modular baseline and monitoring methodology for the AFOLU project category "Reduced Emission from Deforestation and Degradation (REDD)" and covers activities avoiding planned deforestation (APD) and avoiding unplanned deforestation and degradation (AUDD). For unplanned deforestation and degradation the forest landscape configuration can be mosaic, transition or frontier covering, both, unplanned frontier (AUFDD) and unplanned mosaic (AUMDD) deforestation and degradation. The Methodology includes only forest degradation caused by extraction of wood for fuel.

The revision validated now brings the population driver approach for estimating carbon stock changes and GHG emissions related to unplanned deforestation (AUDD) in the baseline. The population driver approach establishes the baseline based on the local (reference region for projecting rate of deforestation) population dinamics and the local forest area that is cleared per additional person entering the population.

The revision does not relate to the planed deforestation (APD) or the forest degradation part of the Methodology.
The revision has thus mainly resulted in changes of the Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation (BL-UP) module with minor changes in Framework Module (REDD-MF) [1, 2].

The Methodology is a Verified Carbon Standard Sectoral Scope 14 (Agriculture, Forestry and Other Land Use) methodology.

SQS has checked and validated the principles and it is SQS's opinion that the general VCS requirements listed below are met. Short comments are added for the principles. For more details, see the Protocol (Appendix B).

- Real; ex-post verification methodology of emission reduction
  => has not changed and, therefore, has not required re-assessment.
- Measurable; ex-ante validation methodology of emission reduction
  =>The deforestation rate based on the population dynamics equations creates a measurable baseline.
- Permanent; i.e. adequate safeguards must ensure that the risk of reversal of emission reduction is minimized in the methodology.
- =>has not changed and therefore has not required re-assessment.
- Additional
- => the additionality has not changed either and, therefore, has not required re-assessment.
- Independently verified; ex-post verification at a reasonable level of assurance included in the methodology
- => the baseline based on the population driver approach can be independently verified.
- Transparent; public disclosure of sufficient and appropriate GHG related information in the methodology
  => the population driver approach has applicability criteria that historic census data is available and periodic population data is expected to be available over the project crediting period - thus transparent. Both determination methods for the local forest area that is cleared per additional person(s) entering the population are also set in transparent way.
- Conservative methodology; i.e. to ensure that the GHG emission reductions or removals are not over-estimated
  => Because the reference region is part of the project area and leakage belt, this approach derives rates from the same region to which they will be applied, therefore representative. The analysis of deforestation constraints has not changed and, therefore, has not required re-assessment For detailed description of conservativeness see 3.1.1.

The main purpose of this Methodology revision is:

- to enable projects and thus facilitate development alternatives, where an increased pressure on forests is expected in future due to increase of population.

The main purpose of projects based on this Methodology will be:

- to contribute to climate change mitigation through reduction of emissions from deforestation.
- to protect forests, especially intact native forests.

Apart from reducing emissions from deforestation and forest degradation, the projects based on this Methodology will also conceive for the following:

- to protect biodiversity.
- to contribute to the sustainable development.

2 Methodology

The validation consisted of the following three phases:

I Desk review of the Methodology Framework Documents, documents listed below, and publicly available sources

II Interviews with the developers of the methodology

III Resolution of outstanding issues (CARs, CLs) and issuance of the final validation report and opinion

The following sections outline steps I - III in more detail.

2.1 Desk Review

The following documents were assessed during the validation:

Nr.	Document
1.	Revised REDD Methodology Framework – REDD-MF Version 2.0
2.	Revised REDD Methodology Element: Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation – BL-UP Version 2.0
3.	VMD0008 Estimation of baseline emission from forest degradation caused by extraction of wood for fuel (BL-DFW)
4.	VMD0010 Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-ASU) http://www.v-c-s.org/VMD0010.html
5.	VMD0016 Methods for stratification of the project area (X-STR) http://www.v-c-s.org/VMD0016.html
6.	VMD0017 Estimation of uncertainty for REDD project activities (X-UNC) http://www.v-c-s.org/VMD0017.html
7.	United Nations 2007. Principles and Recommendations for Population and Housing Censuses. Revision 2 http://unstats.un.org/unsd/demographic/sources/census/docs/P&R_%20Rev2.pdf
8.	The Voluntary Carbon Standard (VCS) 2007.1 (18 November 2008) http://www.v-c-s.org/docs/Voluntary%20Carbon%20Standard%202007_1.pdf
9.	VCS - Tool for AFOLU Methodological Issues http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf
10.	VCS - Program Guidelines 2007.1 http://www.v-c-s.org/docs/Voluntary%20Carbon%20Standard%20Program%20Guidelines%202007_1.pdf
11.	VCS – Guidance for Agriculture, Forestry and Other Land Use Projects (VCS 2007.1, 2008) http://www.v-c-s.org/docs/Guidance%20for%20AFOLU%20Projects.pdf
12.	ISO 14064-2:2006 – Specification with guidance at project level for quantification, monitoring and reporting of GHG emission reductions or removal enhancements http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=38382
13.	ISO 14064-3:2006 – Specification with guidance for the validation and verification of GHG assertions http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=38700
14.	ISO 14065-2:2007– Requirements for GHG validation and verification bodies for use in accreditation or other forms of recognition http://www.iso.org/iso/catalogue_detail?csnumber=40685

15.	GHG Protocol for Project Accounting, 2005, Chapter 7 guidance related to additionality test 1 common practice http://www.ghgprotocol.org/files/ghg_project_protocol.pdf
16.	VCS - Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf
17.	IPCC 2006 Guidelines for AFOLU http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html
18.	Stakeholder comment + answer http://www.v-c-s.org/methodology_ebcsc.html
19.	VMD0015 Methods for monitoring of greenhouse gas emissions and removals (M-MON) http://www.v-c-s.org/VMD0015.html
20.	VMD0011 Estimation of emissions from market-effects (LK-ME) http://www.v-c-s.org/VMD0011.html
21.	VCS Program Normative Document - Double Approval Proces http://www.v-c-s.org/docs/VCS-Program-Normative-Document_Double-Approval-Process_v1.1.pdf
22.	The Field Museum: Socio-economic drivers of deforestation – Document review
23.	Rainforest Alliance: VCS Methodology Assessment Report for: The Field Museum's Revision of the Approved VCS Methodology Framework VM0007 (REDD-MF) and VMD0007 (BL-UP).
24.	SQS Rainforest Alliance methodology assessment findings cross-check

All documents have been archived at SQS. They will be kept secure and in a retrievable manner for at least until the end of the year 2020.

2.2 Interviews

The following table lists the names, affiliated company, and function/role of the people interviewed:

Name		Company	Function/Role
Christina	M. Magerkurth	The Field Museum	Project Manager REDD Methodology

2.3 Resolution of Outstanding Issues

The objective of this phase of the validation is to resolve any outstanding issues which need to be clarified prior to SQS's positive final conclusion on the design of the Methodology. Findings established during the validation can either be seen as a non-fulfilment of VCS criteria or as a risk to the fulfilment of VCS criteria in future projects based on the Methodology.

Corrective action requests (CAR) are issued, where:

- mistakes were made with a direct influence on the Methodology's applicability/integrity or on future projects based on the Methodology; or
- VCS specific requirements were not met; or
- If there is a risk that future projects based on the Methodology would not be accepted as a VCS project or that emission reductions will not be certified.

A clarification request (CL) is issued where additional information was needed to fully clarify an issue.
In order to ensure transparency and for organizational reasons, a validation protocol was established to take into account the corrective action or clarifying information and measures (see Appendix B). The protocol shows in a transparent manner the criteria (requirements), the means of validation and the results from validating the identified issues including any resulting CARs and CLs.

2.4 Internal Quality Control

The draft validation report, including the validation findings, checked as a technical review before being submitted to as final report to the methodology developer. The technical review was performed by a technical reviewer qualified in accordance with SQS's qualification scheme.

2.5 Validation Team

The following matrix shows the names and roles of the members of the validation team

Name	Country	Responsibilities							
		Lead	Desk review	Formal	Financial	Report	Technical expertise	On-site visit	Technical Review
Oliver Stankiewitz	Switzerland	x	x			x			
David Gazdag	Switzerland		x			x	x		
Oliver Gardi	Switzerland								x

Certificates of competence for each validation team member are included in Appendix A to this report.

3 Validation Findings

Validation history
25/01/2011 Validation package received by SQS.
10/02/2011 first set of CLs and CARs sent to the Field Museum by SQS.
4/03/2011 responses to the CLs and CARs received by SQS
10/03/2011 additional CL sent to the Field Museum by SQS
11/03/2011 response to the additional CL received by SQS
22/03/2011 public comment and answer received by SQS
11/04/2011 the draft report sent for technical review
30/04/2011 the draft report sent to the Field Museum by SQS
20/06/2011 the final report sent to the Field Museum by SQS
During the validation 4 CARs and 5 CLs have been raised and all have been closed correctly.
CAR#1 has been raised to make the table of 1.1 consistently split between Simple Historic/Population driver approach; it has been corrected and CAR#1 has been closed.
CAR#2 has been raised to remove unnecessary underlines and
CAR#3 has been raised over missing parameter description - both were corrected and the CARs have been closed.
CAR#4 has been raised to prove the direct interaction between the population growth and the deforestation. The module has been updated with additional applicability requirement for use of DP expanded in Sections 2.1.2.2 and 2.1.2.3. Clarification is given and accepted that Section 2.2.1.1 does not require new applicability condition. Additionality, the module has been amended that to the final model applied in projections must be the lower 95% confidence bound. Sufficient clarification has been given how the methodology revision introduces several important checks to prevent weak relationships from being applied in baseline projections; thus the CAR has been closed.
CL#1 has been raised over the version number, and after amendment it has been closed.
CL#2 has been raised over the stratification, the confusion has been eliminated and the CL has been closed.
CL#3 has been raised over editing issue, it has been corrected and CL#3 has been closed.
CL#4 over the simplification of Equation 10, it has been corrected and CL#4 has been closed.
CL#5 has been raised over the leakage belt, the module has been amended and the CL#5 has been closed.
For the validation findings in detail see the Protocol (Appendix B).

3.1 VCS 2007.1

The Methodology is in line with VCS 2007.1 general requirements [8]

- VCS definitions were used and clearly referenced;
- normative references were followed;
- all six Kyoto Protocol greenhouse gases are considered;
- English language is used;
- additional requirements for AFOLU are met;
- double approval process is used;
- VCS Guidance Documents were considered.

Specific reference to project level requirements (Section 5) and methodologies (Section 6) are given below.
CL#1 has been raised over the version number, it has been corrected.
CL#2 has been raised as originally “stratification” word has been used for different meaning than elsewhere in the methodology, creating confusion especially with relationship to the X-STR [5]. Clarification has been given, and the confusing “stratification” word has been replaced to “divided into subsets”, thus the CL has been closed correctly.

3.2 Project Level Requirements (VCS 2007.1, Section 5)

Although this is for project requirements, most areas need to be addressed in methodology level.

- The Methodology identifies all relevant GHG sources, GHG sinks and GHG reservoirs, and it has not been altered by the revision.
- The Methodology provides a consistent modular framework for projects to reach accurate and conservative emission reduction results, and its modular structure has not been altered by the revision.
- Standards and factors were taken from IPCC and other high quality peer reviewed literature was used such as United Nations recommendations [7].
- The Field Museum has the necessary knowledge for the task.
- The Methodology follows the VCS PD content and layout requirements. Project risk analysis is required in the Methodology according to the VCS Standard, and it has not been altered by the revision.
- Additionality project test if followed in the Methodology using the T-ADD module, and it has not been altered by the revision.

See Checklist 2 in the Protocol (Appendix B) for the relevant findings.

3.3 Requirements for Methodologies (VCS 2007.1, Section 6)

Methodology title, purpose and objective were specified clearly and accurately.

General VCS requirements for methodologies:

- Applicability criteria that defines the area of project eligibility;

  REDD is defined in VCS 2007.1 as Reduced Emissions from Deforestation and Degradation. The Methodology has that title.

  Project proponents must be able to show control over the project area and ownership of carbon rights for the project area. All land areas registered under the CDM or under any other carbon trading scheme (both voluntary and compliance-orientated) must be transparently reported and excluded from the project area. These areas have not been changed by the revision.

  The Methodology is not applicable if land is not being converted to an alternative use but will be allowed to naturally re-grow; in the revision there is applicability criteria requiring that the non-forest land in the RDD not commonly be left idle for >10 years.

  Special requirements are clearly described for applicability in each activity type; these have not been altered by the revision.

  The population driver approach using historic data requires planned census at least every 10 years and that the non-forest land is not left idle for more than 10 years. These requirements are sufficient applicability requirements for the RRD.

- A process that determines whether the project is additional or not
  For additionality, the Methodology has not been changed by the revision, the VCS approved Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities – T-ADD module is requested to be used by the Methodology. As this tool was approved by the VCS previously, it is not part of this validation.

- Determination criteria for the most likely baseline scenario
  See Checklist I in the Protocol (Appendix B) for the relevant findings.
  The baseline of a REDD project activity is estimated *ex ante*. In case of unplanned deforestation it shall be monitored in a reference area for the purpose of periodically adjusting the baseline. Therefore, *Ex-ante* baseline estimations are used in both, the *ex-ante* and *ex-post* determination of net carbon stock changes and GHG emission reductions.
  For unplanned deforestation: BL-UP the original previously validated approach remained unchanged within the module – as now called simple historic approach; this has been cross-checked by SQS, and the simple historic approach is completely identical of the previously validated module. For the population driver approach, the reference region (RRD) is defined as the consolidated area of population census units that include only populations with access to the project area. A reference region for projection of location of deforestation (RRL) is a requirement with the same area/boundary as the RRD. For the analysis of historical deforestation and correlation to population, first the determination of the forest area that is cleared per additional person(s) entering the population is described, either trough Participatory Rural Appraisal or analysis of imagery and population census data; then the projection of population growth is established (either linear or exponential model).
  Official population data is used, official population projections are favoured and where official population projections are not available, population growth rate shall be calculated from population data from 2 or more census dates in a period not exceeding 20 years.
  CAR#4 was raised to prove the direct interaction between the population growth and the deforestation.
  The module was updated with additional applicability requirement for use of DP expanded in Sections 2.1.2.2 and 2.1.2.3. Clarification is given and it is accepted that Section 2.2.1.1 does not require new applicability condition. Additionally, the module has been amended that to the final model applied, projections must be the lower 95% confidence bound. Therefore, CAR#4 was closed.
  Exponential model can only be used if three or more census dates are available in a period not exceeding 20 years prior to the project start date, and if it can be demonstrated that population growth rate increased over 2 or more intervals within that period.
  Prior to calculating population growth rate (below), the absence of any factors that could significantly reduce population growth in the RRD over the term of projection relative to the historic period (e.g. policy changes, war, disease, famine) should be confirmed through a qualitative assessment, opinion of local experts or literature sources. In the event that presence of significant factors is confirmed, census units within which those factors are operating will be identified and assumed to have zero population growth during the projection period.
  The analysis of deforestation constraints part of the methodology module (previously validated) applies for the population driver approach as well; thus population growth itself cannot result of the overestimation of the GHG emission in the baseline case.
  The calculation of Verified Carbon Units
  $VCU_{t} = \left(Adjusted\_C_{REDD,t_2} - Adjusted\_C_{REDD-t_1}\right) - Buffer_{TOTAL}$
  including adjustment to account for uncertainty [6] and total permanence risk buffer withholding [16] remained in the REDD-MF module to ensure the conservative emission reduction allocation.

  See Checklist 3 in the Protocol (Appendix B) for the relevant findings.

- All necessary monitoring aspects related to monitoring and reporting of accurate and reliable GHG emission reductions or removals

  See Checklist J in the Protocol (Appendix B) for the relevant findings.
  See 3.2.6 for further description.

3.4 Criteria (Scope of Assessment of New Methodologies)

3.4.1 Eligibility Criteria

For VCS eligibility, an adequate decision tree is given.

<table>
<tr><td colspan="4">Is the forest land expected to be converted to non-forest land in the baseline case?</td></tr>
<tr><td colspan="2">YES</td><td colspan="2">NO</td></tr>
<tr><td colspan="2">Is the land legally authorized and documented to be converted to non-forest?</td><td colspan="2">Is the forest expected to degrade by fuel wood extraction or charcoal production, in the baseline case</td></tr>
<tr><td>YES</td><td>NO</td><td>YES</td><td>NO</td></tr>
<tr><td>Avoided planned deforestation</td><td>Avoided unplanned deforestation</td><td>Avoided forest degradation</td><td>Proposed project is not a VCS REDD activity currently covered by the module framework</td></tr>
</table>

3.4.2 Baseline Approach

The revised baseline module meets the VCS and ISO 14064-2:2006 requirements. Always, conservative estimation was taken.

3.4.3 Additionality

Project participants shall use T-ADD the VCS approved additionality tool and this has not been changed by the revision. Therefore it is not part of the validation.

3.4.4 Project Boundary

Geographical boundaries

The requirements for geographical boundaries of the project area have not been changed by the revision. Detailed and sufficient information is requested including the name of the project area; unique ID for each discrete parcel of land; map of the area; geographic coordinates of each polygon vertex along with the documentation of their accuracy; total land area; and details of forestland rights holder(s) and user rights.

Other than the project boundaries in the Methodology, reference region and leakage belt area in case of avoided unplanned deforestation are clearly described. For the population driver approach, the reference region (RRD) is defined as the consolidated area of population census units that include only populations with access to the project area. A reference region for projection of location of deforestation (RRL) is a requirement with the same area/boundary as the RRD.

CAR#1 was raised as table 1.1 has not coherently been divided between the simple historic and the population driver approach. It was corrected and further amended. Now, the table is clear, coherent; therefore, CAR#1 was closed.

Temporal boundaries

The following temporal boundaries were requested in the Methodology: start date and end date of the "historical reference period"; start date and end date of the "crediting period"; and the duration of the monitoring period. The project crediting period can be between 20 and 100 years and has to be reported in the VCS PD. None has been altered by the revision. Therefore, it has not required re-assessment.

Carbon pools

A table is given with the list and description of needed carbon pools; each having a specific module. It is in line with VCS requests. It has been previously validated and has not been altered by the methodology revision. Therefore, it has not required re-assessment.

Carbon pools	Included / Excluded	Justification / Explanation of choice
Above-ground	Included	At minimum, the stock change in the above-ground tree biomass shall be estimated. If the non-herbaceous non-tree aboveground carbon stocks are greater in the post-deforestation stratum than the pre-deforestation stratum, they must be estimated in the post-deforestation stratum.
Below-ground	Included	Should be included as it is always significant, but omission is conservative.
Dead-wood	Included	Shall be included if greater in baseline than project scenario and significant, otherwise can be conservatively omitted.
Harvested wood products	Included	Shall be included if greater in baseline than project scenario and significant, otherwise can be conservatively omitted.
Litter	Included	Generally, not significant, so project proponents can decide to conservatively omit.
Soil organic carbon	included	May be included if emissions are greater in baseline than project scenario and significant. Exclusion is always conservative, but it makes sense to include when avoiding deforestation on highly organic mineral soils and on peats (e.g. peat swamp forests).

Emissions

An adequate table is provided in line with VCS requirements for a list of emission sources and shall be the integral part of the VCS PD. It has not been changed by the methodology revision. Therefore, it does not require re-assessment.

Sources	Gas	Included/Excluded	Justification / Explanation of choice
Biomass burning	CO_2	Excluded	However, carbon stock decreases due to burning are accounted as a carbon stock change
	CH_4	Included	Non-CO2 gases emitted from woody biomass burning - it is conservative to exclude in the baseline but must be included in the project case if fire occurs in areas that were projected to be deforested in the baseline.
	N_2O	Included	
Combustion of fossil fuels	CO_2	Included	Can be neglected if excluded from baseline accounting.
	CH_4	Excluded	Potential emissions are negligibly small
	N_2O	Excluded	Potential emissions are negligibly small
Use of fertilizers	CO_2	Excluded	Potential emissions are negligibly small
	CH_4	Excluded	Potential emissions are negligibly small
	N_2O	Included	Can be neglected if excluded from baseline accounting.

3.4.5 Leakage

None of the previously validated leakage modules were changed. Both references for Estimation of emissions from activity shifting for avoided unplanned deforestation LK-ASU [4] and Estimation of emissions from market-effects LK-ME [20] were checked and have not been not been altered by the revision.

Leakage belt is a requirement in the population driver approach and that it is all forested area at the project start within the RRD and outside the project area. Thus the revision has changed the leakage belt area description, but not the leakage module itself.

CL#5 was raised as originally the description of the leakage area was not specific enough. The text was amended. Now, clear description is given; therefore, CL#5 was closed correctly.

3.4.6 Monitoring

A single Monitoring Plan is requested in the VCS PD. M-MON tool [19]. All relevant parameters from the modules are to be included in the monitoring plan.

For monitoring changes in forest cover and carbon stock changes, the monitoring plan shall use the separate module “Methods for monitoring for ex-post greenhouse gas emissions and removals” (M-MON). All relevant parameters from the modules are requested to be included in the monitoring plan. During monitoring, 10-year revision of the baseline is requested and monitoring of the

- actual carbon stock changes and greenhouse gas emissions,
- leakage carbon stock changes and greenhouse gas emissions,
- *ex-post* net carbon stock changes and greenhouse gas emissions.

All of these were not altered by the revision including the 10 year revision; except that in population driver approach baseline rates must be revised with new population projections at the next official population re-

census and/or release of new official population projections if it is sooner than 10 years. SQS agrees with this more precise approach.

3.4.7 Data and Parameters

CL#4 was raised over the simplification of Equation 10. It was simplified; thus, CL#4 was closed.

CAR#3 was raised over the "t" parameter of Equation 11 and 12. The equations were corrected. CAR#3 was closed correctly.

3.4.8 Adherence to the Project-level Principles of the VCS Program

Both, Project- and Method-level Principles of the VCS Program were checked. The Methodology is coherent and fulfils all criteria of VCS.

3.5 Comments by Stakeholders

The Stakeholder comment period was between 10 February 2011 and 11 March 2011. It was conducted on the VCS website in line with the VCS requirements.

One comment received:

17 February 2011
Submitted By: Theron Morgan-Brown
Organization: MJUMITA
Country: Australia

This comment was received via email by the VCS Association.

This is a public comment regarding the Field Museums' Revision to VMD0007 Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation (BL-UP).
Section 2.1.1.4 (Map accuracy assessment) requires a 90% forest/non-forest classification map accuracy for the reference region. While this is obtainable in environments where land covers fall into large blocks, this is not obtainable in more fragmented landscapes that include a mix of forests and non-forest woody land covers, especially when they occur in seasonal and or mountainous environments. The approved VM0006 methodology allows for accuracies as low as 70% with discounts for uncertainty and sets the threshold for no discount at 85%. This seems like a more reasonable approach that will greatly increase the applicability of the VM0007 methodology.
According to the review documents associated with the original VM0007, the Rainforest Alliance reviewers justified moving from an 80% to a 90% map accuracy requirement by arguing that less than 90% would result in too great of uncertainty in areas with low rates of deforestation. VM0006 allows for lower map accuracy, but specifies that the methodology is only applicable in regions experiencing a deforestation rate of 0.5% per annum or greater. Therefore, perhaps a reasonable way to address all concerns would be to adjust the accuracy assessment section of VMD0007 to reflect the requirements and discounts specified in VM0006, but add an additional requirement that areas with deforestation rates below 0.5% per annum must achieve 90% map accuracy.

The response of the Methodology Developer The Field Museum:

This comment does not reference our methodology revision and is, therefore, not considered further.

It is the opinion of SQS that this answer is adequate; no further action is required.

4 Validation Conclusion, Assessment Statement

SQS has performed a validation of the Methodology as outlined in the documentation being part of the VCS validation process. This validation was performed on the basis of VCS 2007.1 as well as further criteria given to provide for consistent project operations, monitoring, and reporting (VCS program guidelines (2008), ISO 14064-2 and -3).

The desk review of the Methodology and the additional information gathered during the subsequent interviews and the satisfaction of corrective actions and clarification requests, has provided SQS with sufficient evidence in order to be able to determine the fulfilment of stated criteria.

In SQS's opinion, the Methodology revision is consistent with the VCS requirements. The Methodology correctly applies the approved baseline, additionality and monitoring principles. By using the Methodology, the future project activities will result in reductions of greenhouse gas emissions that are real, measurable, and give long-term benefits to the mitigation of climate change.

Emission reductions attributable to projects based on this Methodology will be additional to any that would occur in the absence of the project.

In summary, it is SQS's opinion that the VCS methodology framework „VM0007 REDD Methodology Modules" revised by The Field Museum, as described in the documentation of the Methodology, meets all relevant VCS 2007.1 requirements. Therefore, SQS suggests the approval by VCS Association.

Comment

The stakeholder comment received (see 3.3) - although it is not related to this revision - pointed out a map accuracy assessment discrepancy between REDD methodologies. VCS Association should consider to create general guidance for this issue.

5 SQS statement on the second validation findings

During the second validation of the REDD Methodology Modules in accordance with the VCS Program Normative Document Double Approval Process [21] The Field Museum as the methodology developer has engaged with SQS to ensure that SQS statement is based on the final version of the methodology.
During the second validation of Rainforest Alliance VCS announced VCS Version 3 thus the second validation had a scope of VCS Version 3. The CARs raised by Rainforest Alliance have been cross-checked [24] by SQS against VCS Version 3 as well.
For this section and for the cross-check [24] the CARs raised by Rainforest Alliance are in CAR XX/11 format where XX is the number of the CAR. The CARs raised by SQS after a Rainforest Alliance CAR are in the CAR_SQS_XX/11 format.
The CARs and the changes in the modules were especially checked against the following documents:
• Verified Carbon Standard 2011 v3.0;
• Verified Carbon Standard Agriculture, Forestry and Other Land Use (AFOLU) Requirements 2011 v3.0;
• Verified Carbon Standard AFOLU Non-Permanence Risk Tool 2011 v3.0; One CAR has been raised after CAR 01/11 as CAR_SQS_01/11 to add clear statement that the baseline for the project area outside of RRD is that the forest remain intact, thus no VCUs can be generated. The following language is now in Section 1.1.1.1 Alternate: “The RRD need not cover the entire project area, but no VCUs may be claimed for portions of the project area not included in the RRD” The change is sufficient, thus CAR_SQS_01/11 and CAR 01/11 has been closed. All other Rainforest Alliance CARs have been cross-checked and agreed with. As the first validator, SQS supports the changes resulting from the second validation carried out by Rainforest Alliance [23].
The VCS Association after approving the SQS first validation report of the Methodology against VCS 2007.1 conducted an internal assessment of the modules against VCS Version 3; and requested that triggers to re-assess the baseline at any period less than ten year intervals to be removed, to maintain consistency throughout the VCS program. The methodology developer made the changes reqested. As this is a clear requirement of VCS Version 3 reinforced by VCSA SQS agrees with the changes.
Based on the final version, it is SQS’ opinion that the The Field Museum’s Revision of the Approved VCS Methodology Framework “REDD Methodology Modules”, meets all relevant VCS requirements for VCS methodologies and VCS AFOLU projects.
SQS recommends the final Methodology, version 2.0, as dated from 26 July 2011 for approval by VCS.

Appendix A: Certificates of Competence

Name: Mr Oliver Stankiewitz

Scopes of expertise:		
1	Energy industries (renewable/non-renewable sources)	x
	TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar	
	TA 1.2: Energy generation from renewable energy sources	x
2	Energy distribution	x
	TA 2.1: Electricity distribution	□
	TA 2.2: Heat distribution	x
3	Energy demand	x
	TA 3.1 Energy demand	x
4	Manufacturing industries	□
	TA 4.1: Cement sector	□
	TA 4.2: Aluminium	□
	TA 4.3: Iron and steel	□
	TA 4.4: Refinery	□
5	Chemical industry	□
	TA 5.1: Chemical process industries	□
6	Construction	□
	TA 6.1: Construction	□
7	Transport	□
	TA 7.1: Transport	□
8	Mining/mineral production	□
	TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below	□
	TA 8.2: Oil and gas industry, coal mine methane recovery and use	□
9	Metal production	□
	TA 9.1: Metal production	□
10	Fugitive emissions from fuels	□
	TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below	□
	TA 10.2: Oil and gas industry, coal mine methane recovery and use	□
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	□
	TA 11.1: Chemical process industries	□
	TA 11.2: GHG capture and destruction	□
12	Solvents use	□
	TA 12.1: Chemical process industries	□
13	Waste handling and disposal	x
	TA 13.1: Waste handling and disposal	x
	TA 13.2: Animal waste management	x
14	Afforestation and reforestation	x
	TA 14.1: Forestry	x
15	Agriculture	x
	TA 15.1: Agriculture	x
	TA 15.2: Animal waste management	x

Name: Mr David Gazdag

Scopes of expertise:

1	Energy industries (renewable/non-renewable sources)	☐
	TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar	☐
	TA 1.2: Energy generation from renewable energy sources	☐
2	Energy distribution	☐
	TA 2.1: Electricity distribution	☐
	TA 2.2: Heat distribution	☐
3	Energy demand	x
	TA 3.1 Energy demand	x
4	Manufacturing industries	☐
	TA 4.1: Cement sector	☐
	TA 4.2: Aluminium	☐
	TA 4.3: Iron and steel	☐
	TA 4.4: Refinery	☐
5	Chemical industry	☐
	TA 5.1: Chemical process industries	☐
6	Construction	☐
	TA 6.1: Construction	☐
7	Transport	☐
	TA 7.1: Transport	☐
8	Mining/mineral production	☐
	TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below	☐
	TA 8.2: Oil and gas industry, coal mine methane recovery and use	☐
9	Metal production	☐
	TA 9.1: Metal production	☐
10	Fugitive emissions from fuels	☐
	TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below	☐
	TA 10.2: Oil and gas industry, coal mine methane recovery and use	☐
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	☐
	TA 11.1: Chemical process industries	☐
	TA 11.2: GHG capture and destruction	☐
12	Solvents use	☐
	TA 12.1: Chemical process industries	☐
13	Waste handling and disposal	☐
	TA 13.1: Waste handling and disposal	☐
	TA 13.2: Animal waste management	☐
14	Afforestation and reforestation	☐
	TA 14.1: Forestry	☐
15	Agriculture	☐
	TA 15.1: Agriculture	☐
	TA 15.2: Animal waste management	☐

Name: Mr Oliver Gardi

Scopes of expertise:

1	Energy industries (renewable/non-renewable sources)	x
	TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar	□
	TA 1.2: Energy generation from renewable energy sources	x
2	Energy distribution	□
	TA 2.1: Electricity distribution	□
	TA 2.2: Heat distribution	□
3	Energy demand	□
	TA 3.1 Energy demand	□
4	Manufacturing industries	□
	TA 4.1: Cement sector	□
	TA 4.2: Aluminium	□
	TA 4.3: Iron and steel	□
	TA 4.4: Refinery	□
5	Chemical industry	□
	TA 5.1: Chemical process industries	□
6	Construction	□
	TA 6.1: Construction	□
7	Transport	□
	TA 7.1: Transport	□
8	Mining/mineral production	□
	TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below	□
	TA 8.2: Oil and gas industry, coal mine methane recovery and use	□
9	Metal production	□
	TA 9.1: Metal production	□
10	Fugitive emissions from fuels	□
	TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below	□
	TA 10.2: Oil and gas industry, coal mine methane recovery and use	□
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	□
	TA 11.1: Chemical process industries	□
	TA 11.2: GHG capture and destruction	□
12	Solvents use	□
	TA 12.1: Chemical process industries	□
13	Waste handling and disposal	x
	TA 13.1: Waste handling and disposal	x
	TA 13.2: Animal waste management	x
14	Afforestation and reforestation	x
	TA 14.1: Forestry	x
15	Agriculture	x
	TA 15.1: Agriculture	x
	TA 15.2: Animal waste management	x

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Appendix B: VCS Validation Protocol

Enterprise

Business account:	322244
Company:	Environment, Culture and Conservation
Address:	The Field Museum 1400 S. Lake Shore Drive Chicago, 60605 USA
Phone:	+1 630-947-9563
Fax:	+1 312-665-7433
E-Mail:	cmagerkurth@fieldmuseum.org
Contact person:	Mrs Christina M. Magerkurth

Service

Assessment:	VCS 2007.1 Validation
Assessment beginning/end:	24/01/2011 to 16/08/2011
Project name:	ADP REDD Methodological Module Revision
GBZ/Report number:	322245/P30918.33
VCS Scope(s):	14
Team:	Mr Oliver Stankiewitz Mr David Gazdag Mr Oliver Gardi

Scope

- All 6 Kyoto Protocol greenhouse gases
- All technologies supported by an approved VCS Program methodology, incl. AFOLU project types as set out on www.v-c-s.org
- Any approved GHG Programs
- Project category which is/are part of an approved GHG Program
- Project methodologies, not part of an approved GHG Program, when approved under the VCS Program through the double approval process
- Excluded from the scope are:
  - Project(s) that can reasonably be assumed to have generated GHG emissions primarily for the purpose of their subsequent reduction, removal or destruction
  - Project(s) that have created another form of environmental credit (e.g. renewable energy certificates) unless they provide a letter from the program operator that the credit has not been used and has been cancelled.

Normative References

- The VCS 2007.1 (18 November 2008) (Ref. 8.)
- VCS Program Guidelines 2007.1 (18 November 2008) (Ref. 10.)
- ISO 14064-2:2006 – Specification with guidance at project level for quantification, monitoring and reporting of GHG emission reductions or removal enhancements (Ref. 12.)
- ISO 14064-3:2006 – Specification with guidance for the validation and verification of GHG assertions (Ref. 13.)
- ISO 14065-2:2007– Requirements for GHG validation and verification bodies for use in accreditation or other forms of recognition (Ref. 14.)
- GHG Protocol for Project Accounting, 2005, Chapter 7 guidance related to additionality test 1 common practice (Ref. 15.)
- VCS – Guidance for Agriculture, Forestry and Other Land Use Projects (VCS 2007.1, 2008) (Ref. 11.)
- VCS – Tool for AFOLU Methodological Issues (Ref. 9.)
- VCS Program Normative Document - Double Approval Proces (Ref. 21.)

Protocol 1 VCS Program Specific Requirements (VCS 2007.1 [8], chapter 3)

Requirement	Ref.	MoV	Draft Concl.	Final Concl.
1. Are the methodology element documentation, the VCS project description, monitoring reports, validation and verification reports and other documents required in English?	1., 2., 8.	DR	OK	OK
2. Have the GHG emission reductions already occurred and been verified (no forward crediting of voluntary carbon units - VCUs)?			NA	NA
In case of AFOLU (agriculture, forestry and other land use) projects: continue with questions 3 to 7.				
3. Has the latest version of the "Tool for AFOLU methodological issues" for the determination of project type and land egilibility, project boundary, carbon pools, baseline, leakage and net project GHG benefits, been correctly applied by the project proponent?	1.,2., 9.	DR	OK	OK
4. Have potential negative environmental, social and economic impacts been identified and steps been taken to mitigate them prior the generation of VCUs?			NA	NA
5. Is there documented evidence provided in the VCS PD, that no ARR (afforestation, reforestation and revegetation) or ALM (agricultural land mgt.) project areas were cleared of native ecosystems within 10 years period prior to the proposed project start date?	1., 2.	DR	OK	OK
6. Has the risk of non-permanence been analysed and adequate buffer of non-tradebable AFOLU carbon credits been established, using the latest version of and correctly applying the "Tool for AFOLU non-permanence risk analysis and buffer determination"?	1., 2.	DR	OK	OK
In case the following are used under the VCS Program: new methodologies, risk assessment to determine buffer of non-tradable AFOLU carbon credits, IFM (improved forest mgt.) & REDD (reduced emissions from deforestation and degradation) market leakage assessments, new tools, and additionality performance standards.				
7. Have the above undergone double approval process by two different validators or verifiers (1st one appointed by project proponent, 2nd one appointed by VCS secretariat on behalf of the VCS board) accredited for the VCS program?	1., 2.	DR	OK	OK
8. Has there been unanimous agreement between the validators or verifiers completing the 1st and 2nd assessment?	1., 2.	DR	OK	OK

MoV = Means of Verification, DR = Document Review, I = Interview, N/A = Not Applicable
CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

Protocol 2 Project Level Requirements (VCS 2007.1 [8], chapter 5)

Requirement		Ref.	MoV	Draft Concl.	Final Concl.
A. Principles: The application of the following principles is fundamental to ensure GHG-related information is a true and fair account.					
A.1. Relevance: Have the GHG sources / sinks / reservoirs, data and methodologies been selected appropriately to the needs of the intended user?		1., 2., 8., 11.	DR	NA	NA
Comment:	The methodology revision has not altered this part of the Methodology.				
A.2. Completeness: Have all relevant GHG emissions / removals and all relevant information to support criteria and procedures been included?		1., 2., 8., 11.	DR	OK	OK
Comment:	All relevant GHG emissions are included in the Methdodology and the revision has not changed this.				
A.3. Consistency: Are meaningful comparisons in GHG-related information made possible?		1., 2., 8., 11.	DR	OK	OK
Comment:	Comparing GHG emission in the baseline and in the project case based on the population driver approach reliably achived in the methodology revision.				
A.4. Accuracy: Have bias and uncertainties been reduced as far as practical?		1., 2., 8., 11.	DR	OK	OK
Comment:	When using the population driver approach for projecting rate of deforestation, the reference region is part of the project area and leakage belt; thus representative. Prior to calculating population growth rate (below), the absence of any factors that could significantly reduce population growth in the RRD over the term of projection relative to the historic period (e.g. policy changes, war, disease, famine) should be confirmed through a qualitative assessment, opinion of local experts or literature sources. In the event that presence of significant factors is confirmed, census units within which those factors are operating will be identified and assumed to have zero population growth during the projection period.				
A.5. Transparency: Has sufficient and appropriate GHG-related information been disclosed, allowing making decisions with reasonable confidence?		1., 2., 7., 8., 11.	DR	OK	OK
Comment:	Official population data is used, official population projections are favoured and where official population projections are not available, population growth rate shall be calculated from population data from 2 or more census dates in a period not exceeding 20 years.				
A.6. Conservativeness: Have conservative assumptions, values and procedures been used (no overestimation of GHG emission reductions / removal enhancements)?		1., 2., 8., 11.	DR	OK	OK
Comment:	Conservative estimations were used, especially in projecting population in the RRD. Exponential model can only be used if three or more census dates are available in a period not exceeding 20 years prior to the project start date and it can be demonstrated that population growth rate increased over 2 or more intervals within that period.				
B. General requirements					
B.1. Has an approved VCS program methodology or a methodology from an approved GHG program been applied?		1., 2., 8., 11.	DR	CAR# 2	OK
Comment:	The methodology revision has not changed the overall structure of the Methodology, and uses the unchanged modules intactly. CAR#2 was raised as underlines are not widely used in the Methodology. Underlines were removed. CAR was closed.				
B.2. Have (if any) limitations in application by time or geography of approved (VCS Program, other approved GHG program) methodologies been taken into consideration?		1., 2., 8., 11.	DR	OK	OK

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CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

Requirement		Ref.	MoV	Draft Concl.	Final Concl.
Comment:	The methodology revision introduced the population driver approach for estimation of annual areas of unplanned deforestation with clear applicability conditions: • historic census data for the RRD for population driver approach is available for 2 or more points in time in the interval 20 years prior to the project (with the last census date within 2 years of the project start date), or, official population projections are available, and • periodic population census data for the RRD for population driver approach is expected to be available over the project crediting period, with planned re-census every less than or equal to 10 years, and • common practice is that non-forest land in the RRD is not left idle for > 10 years (such that productive land required to accomodate a growing population cannot be met by existing non-forest land) which can be demonstrated through a qualitative assessment, opinion of local experts or literature sources.				
Project start date:					
In case of validation / verification against VCS version 1 (VCS v1)					
B.3. Has the validation of the project been completed or contracted before 19 November 2007?		1., 2., 8., 11.	DR	NA	NA
Comment:					
B.4. For contracts entered in before 19 November 2007: Has the validation been completed before 19 May 2008 and has any proof been provided of contracting prior to 19 November 2007?		1., 2., 8., 11.	DR	NA	NA
Comment:					
B.5. In case the project has been validated under VCS v1: Has the project been grandfathered into VCS 2007.1?		1., 2., 8., 11.	DR	NA	NA
Comment:					
B.6. Has the verification of the project for that specific single monitoring period been completed or contracted before 19 November 2007?		1., 2., 8., 11.	DR	NA	NA
Comment:					
B.7. Has it been ensured that future monitoring periods be verified against VCS 2007.1?		1., 2., 8., 11.	DR	NA	NA
Comment:					
B.8. In case of projects validated against VCS v1, but not having contracted a verifier for that specific single monitoring period by 19 November 2007: Has it been assured the project will be verified against VCS 2007.1?		1., 2., 8., 11.	DR	NA	NA
Comment:					
In case of validation / verification against VCS 2007.1 and non-AFOLU projects					
B.9. Is the project start date after 1 January 2002?				NA	NA
Comment:					
B.10. Is there any proof that the project validation shall be completed within two years of the projects start date or has been contracted or completed before 19 November 2008?				NA	NA

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CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

Requirement	Ref.	MoV	Draft Concl.	Final Concl.
Comment:				
B.11. In case of validation contracts entered into before 19 November 2008: Is there any credible demonstration, that the project validation shall be completed by 19 November 2009 and is there any proof provided of contracting prior to 19 November 2008?			NA	NA
Comment:				
In case validation / verification against VCS 2007.1 and AFOLU projects with start date earlier than 1 January 2002				
B.12. Is there any credible demonstration, that the project validation and verification will be completed by 1 October 2010?			NA	NA
Comment:				
B.13. Is there any verifiable proof that the project was designed and implemented as a climate change mitigation project right from its inception?			NA	NA
Comment:				
B.14. Did the project apply an externally reviewed methodology and engage an independent carbon-monitoring expert to assess and quantify the project's baseline scenario and net emissions reductions or removals, prior to 1 January 2002?			NA	NA
Comment:				
B.15. In case of a proposed methodology not approved by the VCS Program: Has the methodology been approved through the double approval process?			NA	NA
Comment:				
B.16. In case of projects included in an emission trading program or taking place in a jurisdiction or sector with binding GHG emission limits: Has any evidence been provided that the GHG reductions/removals have or will not be used in the emission trading program or for compliance with binding GHG emission limits? e.g. 1) by a letter from the program operator or designated national authority confirming that the emission reductions have been cancelled from the program or national cap; 2) by giving evidence of purchase and cancellation of GHG allowances equivalent to the GHG emission reductions generated by the project related to the program or national cap			NA	NA
Comment:				
B.17. Is it sure, that the project proponent does not claim GHG credits from one project under more than one GHG program?			NA	NA
Comment:				
In case of projects rejected by other GHG programs due to procedural or eligibility requirements, where the GHG program applied has been approved by the VCS board.				
B.18. Does the VCS PD state all GHG programs, which the project has applied for credits and why the project was rejected?			NA	NA
Comment:				

MoV = Means of Verification, DR = Document Review, I = Interview, N/A = Not Applicable
CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

Requirement	Ref.	MoV	Draft Concl.	Final Concl.
B.19. Have all actual rejection document(s) incl. any additional explanations been provided?			NA	NA
Comment:				
B.20. Is the project validated against VCS 2007.1?			NA	NA
Comment:				
In case of projects rejected by other GHG programs due to procedural or eligibility requirements, where the GHG program applied has NOT been approved by the VCS board.				
B.21. Does the project methodology comply with a VCS Program methodology or has it been approved through the double approval process?	1.1.1		NA	NA
Comment:				
B.22. Does the VCS PD state all GHG programs, which the project has applied for credits and why the project was rejected?			NA	NA
Comment:				
B.23. Have all actual rejection document(s) incl. any additional explanations been provided?			NA	NA
Comment:				
B.24. Is the project validated against VCS 2007.1?			NA	NA
Comment:				
Project crediting period:				
B.25. Is the project crediting start date after 28 March 2006?			NA	NA
Comment:				
C. Methodology deviations (if any)				
C.1. What is the impact of any methodology deviations on the conservativeness of baseline scenario(s), additionality determination, included GHG sources / sinks / reservoirs and on criteria and procedures to quantify data leading to GHG reductions?	1., 2., 8., 11.	DR	NA	NA
Comment: This is a validation of the Methodology revision and it is not a deviation.				
C.2. Do the deviations lead to an increase of data accuracy?			NA	NA
Comment:				
D. Methodology revisions (if any)				
D.1. In case of VCS Program methodologies: Have any revisions been approved through the double approval process?	1., 2., 8., 11.	DR	OK	OK

MoV = Means of Verification, DR = Document Review, I = Interview, N/A = Not Applicable
CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

Requirement		Ref.	MoV	Draft Concl.	Final Concl.
Comment:	For this methodology revision, the VCS double approval process if followed, and SQS is the first validator elegible for scope 14 validations, but without VCS registered AFOLU expert.				
D.2. In case of other GHG program methodologies: Have any revisions been approved as per the requirements of the applicable GHG program?				NA	NA
Comment:					
E. Standards and factors					
E.1. Are they publicly available from reputable and recognised sources (e.g. IPCC, published government data)?		1., 2., 7., 8., 11.	DR	OK	OK
Comment:	Census techniques need to follow the referenced United Nations Recomendations.				
E.2. Have they been reviewed as part of their publication by a recognised competent organization?		1., 2., 7., 8., 11.	DR	OK	OK
Comment:	Census techniques need to follow the referenced United Nations Recomendations.				
F. Grouped projects					
F.1. Does the VCS PD include a description of the central GHG information system and controls associated with the project and its monitoring?				NA	NA
Comment:					
F.2. Does the central GHG information system and controls include items identified in ISO 14064-3:2006, clause 4.5?				NA	NA
Comment:					
G. Content of the VCS PD / methodology element documentation					
G.1. Is there any statement whether the project has applied for GHG credits through any other GHG program and the success of any of these applications?				NA	NA
Comment:					
G.2. In case above is yes: Does the VCS PD include proof of registration and does the GHG program operator provide a written guarantee (incl. in the VCS PD) that any GHG reductions shall not have been previously retired within the operator's GHG program and that the reductions shall be cancelled so that they cannot be longer used within the operator's GHG program and hence shall only be accounted for under a VCS registry?				NA	NA
Comment:					
G.3. Does the VCS PD or the methodology documentation contain one of the following Proof of Title?		1., 2., 8., 11.	DR	NA	NA

Requirement	Ref.	MoV	Draft Concl.	Final Concl.

Checklist Proof of Title	Yes/No
Legislative right	☐
Right under local common law	☐
Ownership of the plant, equipment and/or process generating the GHG reductions	☐
Contractual arrangement with the owner of the plant, equipment or process that grants all reductions to the proponent	X

Comment:	The methodology revision has not altered this part of the Methodology.				
G.4. Does the methodology (project) description meet content and layout requirements of the most recent VCS PD template?		1., 2., 8., 11.	DR	NA	NA
Comment:	Content and layout requirements are fulfilled, and the methodology revision has not altered this part of the Methodology.				
G.5. Have methodology (project) title, purpose(s), and objective(s) been specified?		1., 2., 8., 11.	DR	NA	NA
Comment:	REDD is specified; and the methodology revision has not altered this part of the Methodology.				
G.6. Has the type of methodology (GHG project) been specified?		1., 2., 8., 11.	DR	NA	NA
Comment:	REDD is specified; and the methodology revision has not altered this part of the Methodology.				
G.7. Has the project location incl. geographic and physical information allowing unique identification and delineation of the project's specific extent been accurately specified?		1., 2., 8., 11.	DR	OK	OK
Comment:	RRD is defined as the consolidated area of population census units that include only populations with access to the project area. The population census units included in the RRD must form a single contiguous area, and the boundary of the RRL is the same as the RRD. The leakage belt is delineated as all forest area at project start that is within the RRD boundary and outside of the project area.				
G.8. Have the conditions prior to project initiation been described?		1., 2., 8., 11.	DR	OK	OK
Comment:	Historic census data is requested, other than that the original Methodology has not been changed.				
G.9. Has a description been given of how the project will achieve GHG reductions and /or removal enhancements?		1., 2., 8., 11.	DR	OK	OK
Comment:	The methodology revision has not altered this part of the Methodology.				
G.10. Have project technologies, products, services and the expected level of activity been described?				NA	NA
Comment:					
G.11. Have the aggregated GHG reductions and removal enhancements likely to occur from the project been stated in tonnes of CO2-Eq.				NA	NA

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Requirement	Ref.	MoV	Draft Concl.	Final Concl.
Comment:				
G.12. Have risks that may substantially affect the project's GHG reductions been identified?	1., 2., 6., 8., 11.	DR	OK	OK
Comment:	Prior to calculating population growth rate (below), the absence of any factors that could significantly reduce population growth in the RRD over the term of projection relative to the historic period (e.g. policy changes, war, disease, famine) should be confirmed through a qualitative assessment, opinion of local experts or literature sources. In the event that presence of significant factors is confirmed, census units within which those factors are operating will be identified and assumed to have zero population growth during the projection period. The methodology revision has not altered this uncertainty module of the Methodology.			
G.13. Have roles and responsibilities, incl. contact information of the project proponent, other project participants, and relevant regulator(s) and/or administrators of any GHG program(s) to which the methodology (project) subscribes been included?			NA	NA
Comment:				
G.14. Has any information relevant for the eligibility of the methodology (project) under a GHG program (and quantification of GHG reductions) incl. legislative, technical, economic, sectoral, socio-cultural, environmental, geographic, site-specific, and temporal information been included?	1., 2., 6., 8., 11.	DR	NA	NA
Comment:	The methodology revision has not altered this uncertainty module of the Methodology.			
G.15. Has a summary of an environmental impact assessment been included (if required by applicable legislation or regulation)?			NA	NA
Comment:				
G.16. Have any relevant outcomes from stakeholder consultations and mechanisms for on-going communication been included?	18	DR	OK	OK
Comment:	On the global stakeholder comments, one comment was received. It was not related to the part that has been revisied in the methodology.			
G.17. Does the PD include a chronological plan for the date of initiating project activities, date of project termination, monitoring and reporting frequency, project period incl. relevant project activities in each step of the project cycle?			NA	NA
Comment:				
G.18. Does the PD include relevant local laws and regulations related to the project and demonstration of compliance with them?			NA	NA
Comment:				
G.19. Does any information requested as commercially sensitive meets the following definition?: Trade secrets, financial, commercial, scientific, technical or other information whose disclosure could reasonably be expected to result in a material financial loss or gain, prejudice the outcome of contractual or other negotiations or otherwise damage or enrich the person or entity to which the information relates.			NA	NA
Comment:				

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Requirement		Ref.	MoV	Draft Concl.	Final Concl.
G.20. In case of AFOLU methodology (project) excl. ALM projects: Does the VCS PD or the methodology documentation include a (project) risk analysis prepared in accordance with the most recent version of the "Tool for AFOLU non-permanence risk analysis and buffer determination" and "Guidance for agriculture, forestry and other land use projects (2007.1, 2008)"?		1., 2., 8., 11., 16.	DR	OK	OK
Comment:	Tool for AFOLU non-permanence risk analysis and buffer determination" remained mandatory, and the methodology revision has not altered the Methodology in this regard.				
H. Additonality					
H.1. Which test has been used to demonstrate additionality?		1., 2., 8., 11.	DR	NA	NA
Comment:	The methodology revision has not altered the Methodology in this regard. The VCS approved Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities is used.				
H.2. In case project test is used: Have the following requirements been met?		1., 2., 8., 11.	DR	OK	OK
Comment:	The methodology revision has not altered the Methodology regarding this.				
H.3. In case performance test is used: Have the following requirements been met?				NA	NA

Checklist perfomance test requirements	Yes/No
Regulatory surplus: project is not mandated by any enforced law, statute or other regulatory framework	☐
Performance standard: Emission generated per unit of project output shall be below the level that has been approved by the VCS program for the product, service, sector or industry (level defined to ensure that project is not business-as-usual). (15/06/2009: currently no performance standard additionality methodologies have been approved)	☐

Comment:	
H.4. In case technology test is used: Have the following requirements been met?	NA / NA

Checklist technology test requirements	Yes/No
Regulatory surplus: project is not mandated by any enforced law, statue or other regulatory framework	☐
Technology additionality: project and its location is contained in the list of project types and applicable areas approved as being additional by the VCS Program (15/06/2009: currently no project types approved under the positive technology list)	☐

Comment:	

Requirement		Ref.	MoV	Draft Concl.	Final Concl.
I. Baseline					
I.1.	Has the most conservative baseline scenario been selected based on the requirements in the applicable VCS methodology?	1., 2., 8., 11.,	DR	CAR# 3	OK
Comment:	CAR#3 was raised to ad to Equation 9 and 10 *t* 1, 2, 3, … *t* years elapsed since the projected start of the REDD project activity as in Equation 11 and 12. In case of population driver approach, conservative population dynamics were chosen. For simple historic baseline rate approach, BL-UP and REDD-MF remained unaltered by the revision. For the analysis of historical deforestation and correlation to population, first the determination of the forest area that is cleared per additional person(s) entering the population is described, either trough Participatory Rural Appraisal or analysis of imagery and population census data; then the projection of population growth is established (either linear or exponential model). Exponential model can only be used if three or more census dates are available in a period not exceeding 20 years prior to the project start date and it can be demonstrated that population growth rate increased over 2 or more intervals within that period. Prior to calculating population growth rate (below), the absence of any factors that could significantly reduce population growth in the RRD over the term of projection relative to the historic period (e.g. policy changes, war, disease, famine) should be confirmed through a qualitative assessment, opinion of local experts or literature sources. In the event that presence of significant factors is confirmed, census units within which those factors are operating will be identified and assumed to have zero population growth during the projection period.				
I.2.	Does the baseline set out the geographic scope as applicable to the project?	1., 2., 8., 11.,	DR	OK	OK
Comment:	In case of population driver approach, applicability conditions are required for historic census data and non-forest land use. For simple historic baseline rate approach BL-UP and REDD-MF remained unaltered by the revision.				
I.3.	Does the project proponent credibly demonstrate compliance with all relevant regulations, legislation and project approvals (e.g. environmental permits)?			NA	NA
Comment:					
J. Monitoring					
J.1.	Is there any credible proof that the project has established and maintains criteria and procedures for obtaining, recording, compiling and analysing data and information for quantifying and reporting GHG emission reductions / removals relevant for the project and baseline scenario (e.g. GHG information system)?	1., 2., 19	DR	OK	OK
Comment:	The methodology revision only changed the baseline of the methodology, the monitoring module was previously validated and was not been effected by the revision; this has been cross-checked by SQS. The baseline, however, has to be re-assesed. Thus, the population dynamics and the local forest area that is cleared per additional person(s) entering the population monitored. It was clearly requested in the original module (in every no more than 10 years), and it was not changed in the revision – except that in population driver approach baseline rates must be revised with new population projections at the next official population re-census and/or release of new official population projections if it is sooner than 10 years.				
J.2.	Are the monitoring criteria and procedures applied on a regular basis during project implementation?	1., 2., 19	DR	OK	OK

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Requirement		Ref.	MoV	Draft Concl.	Final Concl.
Comment:	Baseline rates using the population driver approach approach must be reassessed at least every 10 years *and* must be revised with new population projections at the next official population re-census and/or release of new official population projections if sooner.				
J.3.	Do the monitoring procedures include the purpose of monitoring?	1., 2., 19	DR	OK	OK
Comment:	Monitoring was validated previously; the purpose including the re-assessment of the baseline has not been changed; this has been cross-checked by SQS.				
J.4.	Do the monitoring procedures include types of data and information to be reported incl. units of measurement?	1., 2. 7. 19	DR	OK	OK
Comment:	The monitoring module was validated previously and was not altered; this has been cross-checked by SQS. United Nations Principles and Recommendations need to be followed on censuses.				
J.5.	Do the monitoring procedures include the origin of data?	1., 2., 19	DR	OK	OK
Comment:	Official population census data and population projections; Participatory Rural Appraisal, or analysis pairing historic imagery and population census data used to set the baseline in the population driver approach.				
J.6.	Do the monitoring procedures include monitoring methodologies incl. estimation, modelling, measurement or calculation approaches?	1., 2., 19	DR	OK	OK
Comment:	For the analysis of historical deforestation and correlation to population, first the determination of the forest area that is cleared per additional person(s) entering the population is described, either trough Participatory Rural Appraisal or analysis of imagery and population census data; then the projection of population growth is established (either linear or exponential model). Official population data is used, official population projections are favoured and where official population projections are not available, population growth rate shall be calculated from population data from 2 or more census dates in a period not exceeding 20 years.				
J.7.	Do the monitoring procedures include times and periods, considering the needs of intended users?	1., 2., 19	DR	NA	NA
Comment:	The methodology revision only changed the baseline of the methodology, monitoring has been previously validated; this has been cross-checked by SQS.				
J.8.	Do the monitoring procedures include monitoring roles and responsibilities?	1., 2., 19	DR	NA	NA
Comment:	The methodology revision only changed the baseline of the methodology, monitoring has been previously validated; this has been cross-checked by SQS.				
J.9.	Do the monitoring procedures include GHG information management systems, incl. the location and retention of stored data?	1., 2., 19	DR	NA	NA
Comment:	The methodology revision only changed the baseline of the methodology, monitoring has been previously validated; this has been cross-checked by SQS.				
J.10.	In case measurement and monitoring equipment is used: Is it ensured that the equipment is calibrated acc. to current good practice?	1., 2., 19	DR	NA	NA
Comment:	The methodology revision only changed the baseline of the methodology, monitoring has been previously validated; this has been cross-checked by SQS.				
K. Monitoring reports for the GHG project					
K.1.	Do the monitoring reports include all the monitoring data, calculations, estimations, conversion factors and other standard factors as defined in the monitoring clause of the applied VCS Program methodology and set out in the VCS PD?	1., 2.,	DR	OK	OK
Comment:	The methodology revision only changed the baseline of the methodology, monitoring has been previously validated.				

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Requirement	Ref.	MoV	Draft Concl.	Final Concl.
L. Records relating to the project				
L.1. Are all documents and records kept in a secure and retrievable manner for at least two years after the end of the project crediting period?			NA	NA
Comment:				

Checklist 3 Methodologies (VCS 2007.1 [8], chapter 6, sections 6.1-6.4)

Requirement	Ref.	MoV	Draft Concl.	Final Concl.
M. General requirements				
M.1. Does the VCS Program methodology include a. applicability criteria that defines the area of project eligibility; b. a process that determines whether the project is additional or not; c. determination criteria for the most likely baseline scenario; and d. all necessary monitoring aspects related to monitoring and reporting of accurate and reliable GHG emission reductions or removals?	1., 2., 8., 11., 19	DR	OK	OK
Comment:	a. In case of population driver approach, applicability conditions are required for historic census data and non-forest land use; for simple historic baseline rate approach BL-UP remain unaltered. b. The methodology revision only changed the baseline of the methodology, the additionality module remained the same. c. Baseline criteria is set based on the most likely future population. d. The methodology revision only changed the baseline of the methodology, the monitoring module remained the same.			
M.2. Is the methodology informed by a comparative assessment of the project and its alternatives (i.e. at a minimum, a comparative assessment of the implementation barriers and net benefits faced by the project and its alternatives) in order to identify the baseline scenario?	1., 2., 8., 11.,	DR	OK	OK
Comment:	This has been covered by the methdodology and not effected by the revision.			
N. Identifying GHG sources, sinks and reservoirs relevant to VCS methodologies Text taken from ISO 14064-2:2006, clause 5.3.				
N.1. Has the project proponent selected or established criteria and procedures for identifying and assessing GHG sources, sinks and reservoirs controlled, related to, or altered by the project?	1., 2.,	DR	OK	OK
Comment:	This has been covered by the methdodology and not effected by the revision.			
N.2. Does the VCS PD include identification and assessment of GHG sources, sinks and reservoirs as being: a. controlled by the project proponent; b. related to the GHG project; or c. altered by the GHG project?	1., 2.,	DR	OK	OK
Comment:	This has been covered by the methdodology and not effected by the revision.			
O. Determine the baseline scenario relevant to VCS methodologies Text partly taken from ISO 14064-2:2006, clause 5.4. and clause 5.5.				
O.1. Has the project proponent selected the most conservative baseline scenario (i.e. what most likely would have occurred in the absence of the project) for the methodology?	1., 2.,	DR	CAR#4	OK

Requirement		Ref.	MoV	Draft Concl.	Final Concl.
Comment:	Conservative two step approach was designed for analysis of correlation between population and deforestation and to project population. For the analysis of historical deforestation and correlation to population, first the determination of the forest area that is cleared per additional person(s) entering the population is described, either trough Participatory Rural Appraisal or analysis of imagery and population census data; then the projection of population growth is established (either linear or exponential model). CAR#4 was raised to prove the direct interaction between the population growth and the deforestation. It was described that the methodology revision introduces several important checks to prevent weak relationships from being applied in baseline projections: • Correlation must be significant • Minimum R-squared is 0.5 (i.e. the independent variable population must explain at least 50% of the variation in deforested area) • Final model applied in projections must be the LOWER 95% confidence bound, It is the opinion of SQS that the clarification is sufficient; therefore, this CAR was closed.				
O.2. Does the principle of conservativeness as set out in clause 3.7 of ISO 14064-2:2006 apply?		1., 2.,	DR	OK	OK
Comment:	Conservative two step approach has been designed for analysis of correlation between population and deforestation and to project population.				
O.3. Has the project proponent selected or established criteria and procedures for identifying and assessing potential baseline scenarios considering the following: a. the project description, including identified GHG sources, sinks and reservoirs; b. existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project; c. data availability, reliability and limitations; d. other relevant information concerning present or future conditions, such as legislative, technical, economic, socio-cultural, environmental, geographic, sitespecific and temporal assumptions or projections?		1., 2.,	DR	OK	OK
Comment:	a. Carbon pools and emissions were covered by the methdodology and not altered by the revision. b. Different baseline modules were created for each project type in the Methdodology, this revision only changes BL-UP with the original version remaining as a selectable option. c. Data is based on historic census data, rural appraisal test and imagery data all with quality assurance. d. Baseline rates must be reassessed at least every 10 years and must be revised with population re-census and release of new official population projections. Official population data is used, official population projections are favoured and where official population projections are not available, population growth rate shall be calculated from population data from 2 or more census dates in a period not exceeding 20 years.				
O.4. Has the project proponent demonstrated equivalence in type and level of activity of products or services provided between the project and the baseline scenario and has he explained, as appropriate, any significant differences between the project and the baseline scenario?		1., 2.,	DR	OK	OK
Comment:	Revision has not changed the main difference between the baseline (no forest) and project (forest remains) case.				
O.5. Has the project proponent selected or established, explained and applied criteria and procedures for identifying and justifying the baseline scenario?		1., 2.,	DR	CAR# 1	OK
Comment:	CAR#1 was raised to make the table 1.1 of BL-UP consistent split between the baseline rate approaches of Simple Historic/Population driver. It was corrected, the table ammended. Thorough population and deforestation link was described and requested.				

Requirement		Ref.	MoV	Draft Concl.	Final Concl.
O.6.	In case a baseline scenario is developed: Has the project proponent selected the assumptions, values and procedures that help ensure that GHG emission reductions or removal enhancements are not overestimated?	1., 2.,	DR	OK	OK
Comment:	Both population dynamics and local forest area cleared per additional person entering the population are selected conservatively: For population dynamics exponential model can only be used if 3 or more census dates are available in the period, and if it can be demonstrated that population growth rate increased over 2 or more intervals within the period For the change in deforested area (ha), coinciding with a given change in population if model results are statistically significant ($p \leq 0.05$) and unbiased (i.e. minimal trend in residuals), with an adjusted R-squared ≥ 0.50, the model will be used - if model results do not meet these criteria, this parameter is assumed to be zero. For carbon pools and other aspects the Methdology was not altered by the revision.				
O.7.	Has the project proponent selected or established, justified and applied criteria and procedures for demonstrating that the project results in GHG emission reductions or removal enhancements are additional to what would occur in the baseline scenario?	1., 2.,	DR	OK	OK
Comment:	Additionality is clearly justified trough the VCS approved additionality tool, and this remains after the revision.				
O.8.	Does the baseline scenario set out the geographic scope as applicable to the methodology?	1., 2.,	DR	CL#5	OK
Comment:	CL#5 was raised as additional requirements for minimum leakage belt area were too broad. Now it is clear that when using the population driver approach to project baseline rate of deforestation, the leakage belt must extend to the RRD boundary. Other unaltered applicability of the Methodology; population driver approach is applicable where historic census data is available.				
P.	**Additionality**				
P.1.	Does the methodology describe how it is additional based on the additionality requirements in Protocol 2 Project Level Requirements, section H?	1., 2.,	DR	NA	NA
Comment:	The additionality module was not altered by the revision.				

Checklist 4 Requirements for AFOLU Methodological Issues Guidance for Agriculture, Forestry and Other Land Use Projects (REDD only)

CHECKLIST QUESTION	Ref.	MoV*	Draft Concl	Final Concl
Q. Step 0: General methodolocial guidance				
Q.1. Does the (ex-ante) determination and quantification of the baseline and project scenario (including the leakage assessment) follow either relevant IPCC 2006 Guidelines for AFOLU, or approved CDM and VCS methodologies? (Comment: 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.)	1., 2., 7., 17.	DR	OK	OK
Comment:	United Nations Recommendations for Population and Housing Censuses need to be followed.			
Q.2. For AFOLU projects: Are all significant GHG sources and leakage measured, estimated and monitored in both the baseline and project case? (Comment: "Insignificant" GHG sources 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-eq benefits generated by the project).	1., 2.,	DR	OK	OK
Comment:	Identification of GHG sources, carbon pools and leakage measured, estimated and monitored.			
Q.3. If pools are excluded: Does the exclusion lead to conservative estimates of the number of credits carbon generated?	1., 2.,	DR	OK	OK
Comment:	The carbon pool modules have not been altered by the revision.			
R. Step 1: Determine the land eligibility				
R.1. Is the land contained within the project boundary eligible on the basis of the VCS "Guidance for Agriculture, Forestry and Other Land Use Projects"?	1., 2.,	DR	OK	OK
Comment:	This has not been altered by the revision.			
R.2. If the project encompasses several land-use activities: Does the VCS land eligibility satisfy requirements for each activity type for which crediting is being sought?			NA	NA

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CHECKLIST QUESTION	Ref.	MoV*	Draft Concl	Final Concl
Comment:				
R.3. Is the boundary of the REDD activity clearly delineated and defined and does it include only land qualifying as "forest" (e.g. based on UNFCCC host country thresholds or FAO definitions) for a minimum of 10 years prior to the project start date?	1., 2.,	DR	OK	OK
Comment: This is a requirement in the methodology and has not been altered by the revision.				
S. Step 2: Determine the project boundary				
S.1. Is the project boundary determined by the project proponent defined by a. the geographic boundary within which the project will be implemented? b. the project crediting period? c. the sources and sinks, and associated types of greenhouse gases (i.e., CO2, N2O, CH4), the project will affect? d. the carbon pools that the project will consider?	2, 29	DR	OK	OK
Comment: a. details for geographic boundary was established, including population census untis requirements for RRD b. crediting period is required and maxed, and has not been altered by the revision c. sources, sinks, are detailed in table and stratification is also described, and has not been altered by the revision d. for carbon pools a clear table is provided, and has not been altered by the revision				
T. Step 3: Determine the carbon pools				
T.1. Are all the carbon pools marked with a "Y" in the table below included?	2	DR	OK	OK

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CHECKLIST QUESTION	Ref.	MoV*	Draft Concl	Final Concl

	Living biomass			Dead organic matter			
	Above ground trees	Above ground non-tree	Below-ground	Litter	Dead Wood	Soil	Wood prod-ucts
Planned or unplanned conversion of for-est to non-forest, with final land cover of annual crop	Y	O	O	O	O	O	Y
Planned or unplanned conversion of for-est to non-forest, with final land cover of pasture grasses	Y	O	O	O	O	N	Y
Planned or unplanned conversion of for-est to non-forest, with final land cover of perennial crop (e.g. oil palm, bananas, fruit and spice trees)	Y	Y	O	O	O	N	Y

Y = pool shall be in-cluded in the moni-toring plan for the base-line and project.
O = pool is optional, although its carbon stock may increase as a result of the project, depending on the practices involved.
N = pool needs not be measured because it is not subject to significant changes or potential changes are transient in na-ture.

Comment:	The Methodology is in line with the table, with the exception that soil carbon can be optionally used in all baselines, and has not been altered by the revision.				
T.2. If any nitrogen fertilizer and/or manure is ap-plied, or N-fixing species planted during the crediting period: Are emissions of N2O ac-counted for, unless insignificant?		1., 2.,	DR	OK	OK
Comment:	This has not been altered by the revision.				
T.3. Would the project land have been subject to cat-tle grazing and/or nitrogen fertilization, and/or would fire have been used to clear the land or constituted a cause of forest degradation in the baseline scenario? Comment: If so, then reductions of N2O and/or CH4 emissions are eligible for crediting.		1., 2.,	DR	OK	OK
Comment:	This has not been altered by the revision.				
U. Step 4: Establish a project baseline					
U.1. Does the project follow the baseline rules de-fined by the VCS?		1., 2.,	DR	OK	OK
Comment:	This has not been altered by the revision.				
U.2. Have both main components, i.e. the land-use and land-cover (LU/LC) change component and the associated carbon stock change compo-nent, been taken into account for the determi-nation of the project baseline?		1., 2.,	DR	OK	OK

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CHECKLIST QUESTION	Ref.	MoV*	Draft Concl	Final Concl
Comment: This has not been altered by the revision.				
U.3. Developing the LU/LC change component of the baseline is handled differently for the three eligible REDD activity types. Which REDD activity type has been used in this project?	1., 2.,	DR	OK	OK

VCS REDD activity types	Yes/No
Avoiding planned deforestation (APD)	NA
Avoiding unplanned frontier deforestation and degradation (AUFDD)	Yes
Avoiding unplanned mosaic deforestation and degradation (AUMDD)	Yes

Comment:	The revision brings the population driver approach for estimating carbon stock changes and GHG emissions related to unplanned deforestation (AUDD) in the baseline. The revision does not relate to the planed deforestation (APD) or the forest degradation part of the Methodology.

U.4. In case of APD: Have the following requirements been met?	1., 2.,	DR	NA	NA

Checklist APD requirements	Yes/No
Does the Methodology require the project documentation to clearly demonstrate that the land would have been converted to non-forest use if not for the REED project?	NA
Does the project developer required to provide verifiable evidence to demonstrate that, based on government and landowner-planned land use changes, the project area was intended to be cleared?	NA
Is the annual rate of forest conversion based on the common practice in the area? (I.e., how much forest is typically cleared each year by similar baseline activities?)	NA
If it is common practice in the area for timber to be removed before clearing: Is the amount of carbon that ended up in long-lived wood products estimated and deducted from the baseline emissions estimates (subject to the de minimis rule of 5%)?	NA

Comment:	The revision does not relate to the planed deforestation (APD).

U.5. In case of AUFDD: Have the following requirements been met?	1., 2.,	DR	OK	OK

Checklist AUFDD requirements	Yes/No
Does the project developer required to demonstrate that the project area is located geographically where deforestation / degradation will likely happen during the crediting period?	Yes
Where the expansion of the deforestation frontier into the project area is linked to the development of infrastructure that does not yet exist: Is there evidence that such infrastructure would have been developed in the absence of the REDD project?	NA

Comment:	Through population dynamics, the revision sufficiently proves that the project area is located geographically where deforestation will likely happen during the crediting period.

U.6. In case of AUMDD: Have the following requirements been met?	1., 2.,	DR	OK	

CHECKLIST QUESTION	Ref.	MoV*	Draft Concl	Final Concl

Checklist AUMDD requirements	Yes/No
Has a baseline projection of deforestation and degradation been developed for the region in which the project area is located, making sure it takes into account such factors as historical deforestation / degradation rates?	Yes
Has a baseline projection of deforestation and degradation been developed for the region in which the project area is located, making sure the proposed regional baseline area is similar to the project area in terms of: drivers of deforestation / degradation, landscape configuration, and socio-economic and cultural conditions?	Yes

Comment:	Historical deforestation rates were incorporated into by determining the forest area that is cleared per additional person(s) entering the population. The location itself and its surrundigs are analysed for the baseline.			
U.7. Does the baseline methodology outline the measurements, calculations, and assumptions used to estimate the annual amount and likely general location of the expected deforestation / degradation under baseline conditions?	1., 2.,	DR	OK	OK
Comment:	Thourough step-by-step process is described in the methodology. For the analysis of historical deforestation and correlation to population, first the determination of the forest area that is cleared per additional person(s) entering the population is described, either trough Participatory Rural Appraisal or analysis of imagery and population census data; then the projection of population growth is established (either linear or exponential model).			
U.8. Have the baseline net GHG emissions and removals been estimated for each year of the proposed crediting period?			NA	NA
Comment:				
V. Step 5: Assess and manage leakage				
V.1. Have leakage effects on carbon pools been assessed and significant effects been taken into account when calculating net emission reductions? Comment: Accounting for positive leakage is not allowed.	1., 2.,	DR	OK	OK
Comment:	The leakage belt is all forested area at the project start within the RRD and outside the project area The leakage modules was not altered by the revision.			
V.2. Has leakage been assessed and managed for the three eligible REDD activity types?	1., 2.,	DR	NA	NA
Comment:	The leakage modules was not altered by the revision.			

CHECKLIST QUESTION	Ref.	MoV*	Draft Concl	Final Concl
V.3. In case leakage prevention measures for any eligible REDD activity include tree planting, agricultural intensification, fertilization, fodder production and/or other measures to enhance cropland and grazing land areas: Has any significant increase in GHG emissions associated with these activities been estimated and subtracted from the project's net emissions reductions?	1., 2.,	DR	NA	NA
Comment: The leakage modules was not altered by the revision.				
V.4. In case timber production is significantly altered: Has leakage caused by market effects been considered?	1., 2.,	DR	NA	NA
Comment: The leakage modules was not altered by the revision.				
V.5. Are any carbon credits generated from stopping illegal logging activities (to the extent they supply regional/global timber markets)? Comment: If so, they shall be subject to market leakage discounts (for guidance: VCS Tool for AFOLU Methodological Issues, Table 2).	1., 2.,	DR	NA	NA
Comment: The leakage modules was not altered by the revision.				
V.6. In case the default market leakage discounts were not applied (VCS Tool for AFOLU Methodological Issues, Table 2): Did project proponents estimate the project's market leakage effects across the entire country and/or did they use analysis(es) from other similar projects to justify a different market leakage value?	1., 2.,	DR	OK	OK
Comment: The leakage modules was not altered by the revision.				
V.7. In case the outcome of the IFM and REDD market leakage assessment is conducted at first VCU issuance (whether using default discounts or project specific analysis(es)): Has it been subject to the VCS double approval process?			NA	NA
Comment:				
W. Step 6: Estimate and monitor net project greenhouse gas benefits				
W.1. Are IPCC 2006 Guidelines used for estimating a. CO2 and non-CO2 emissions? b. forest regrowth (carbon accumulation) if degradation is reduced? c. reductions in forest carbon stocks caused by removals of biomass exceeding regrowth?	1., 2.,	DR	OK	OK

MoV = Means of Verification, DR = Document Review, I = Interview, N/A = Not Applicable
CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

CHECKLIST QUESTION		Ref.	MoV*	Draft Concl	Final Concl
Comment:	Monitoring was not altered by the revision.				
W.2.	Are IPCC 2006 Guidelines followed in terms of quality assurance / control and uncertainty analysis?	1., 2.,	DR	OK	OK
Comment:	Monitoring was not altered by the revision.				

Protocol 4 Summary of Requests

No.:	CAR#1	Reference: P.5.; [2]
Validator request:	In the table of 1.1 (page 4) to make in consistent split the baseline rate approach to Simple Historic/Population driver in the bottom line as it is in the first two lines.	
Project participant response:	Table expanded to detail RRL requirements by baseline rate approach (only difference is that RRL is required for the population driver approach).	
Validator conclusion:	Table 1.1 is now clear and coherent. This CAR was closed.	Date: 02/04/2011

No.:	CAR#2	Reference: BL-UP
Validator request:	In PART 2. (page 11) remove unnecessary underlines (a. and b.). Underlines are not widely used in the Methodology, and although SQS understands the importance of these parts, other not underlined part has the same magnitude.	
Project participant response:	Underlines removed.	
Validator conclusion:	Underlines removed, the CAR was closed.	Date: 02/04/2011

No.:	CAR#3	Reference: BL-UP
Validator request:	Please ad to Equation 9 and 10 *t* 1, 2, 3, … *t* years elapsed since the projected start of the REDD project activity as in Equation 11 and 12.	
Project participant response:	Following text added to equations 9 and 10: *t* 1, 2, 3, … *t* years elapsed since the projected start of the REDD project activity	
Validator conclusion:	Equations have been updated; this CAR was closed.	Date: 02/04/2011

No.:	CAR#4	Reference: BL-UP
Validator request:	For better future use of the methodology and for clear future validation please add as applicability criteria the direct interaction between the population growth and the deforestation.	
Project participant response:	Proving a causal relationship between population and deforestation is neither feasible, nor necessary. The relationship (significant correlation) need not be causal to be both valid and a good predictor. Noise in the (any) relationship is to be expected. The methodology does not, and should not, require the independent variable (driver, in this case population) to explain all of the variation nor focus the relationship only on deforestation directly applicable to population. VCS approved methodology VM0009 and VCS double-validated frontier methodology (developed by FAS and CarbonDecisions, and shortly to be approved), both permit modelling deforestation on the basis of covariates as does this VM0007 revision, and do not include this requirement. Acknowledging the above, the methodology revision introduces several important checks to prevent weak relationships from being applied in baseline projections: • Correlation must be significant • Minimum R-squared is 0.5 (i.e. the independent variable population must explain at least 50% of the variation in deforested area; we also provide along with this response a literature review that supports this value)	

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	• Final model applied in projections must be the LOWER 95% confidence bound, an additional conservative check added in response to Rainforest Alliance CAR 05/11 Importantly, the "residual" unplanned deforestation not explained by population, for example from a logging operation not conducted by local residents, is still occurring and should be included in baseline trends. Only if there were a trend in the residuals (e.g. where residuals increased with increasing population, i.e. where population explains less and less of deforestation as population grows), *which is also not allowed per the revision*, would there be a problem with applying a relationship to projections. Deforestation not directly attributable to population will always be part of the background and should be included in an accurate portrayal of baseline trends. In addition, should a circumstance emerge where a census unit is an obvious outlier (e.g. a census unit with low population but unusually high deforestation), such a census unit would skew the trend and not allow achieving the minimum R-squared, nor could a single outlier census unit be set up as its own strata, because more than one is needed to demonstrate a correlation or trend among units. Updated response – 2011-06-14 In response to the CAR, provisions for use of DP models have been expanded in Sections 2.1.2.2 and 2.1.2.3 to add the following requirement "It must further be demonstrated that the resulting DP parameter does not represent a spurious correlation between population and deforestation, substantiated through a qualitative assessment, opinion of local experts or literature sources." Note that the PRA approach to deriving DP, Section 2.2.1.1, does not require the above restriction because causality is demonstrated directly (deforestation is that due to survey respondents).	
Validator conclusion:	The module has been updated with additional applicability requirement for use of DP expanded in Sections 2.1.2.2 and 2.1.2.3. Clarification is given and accepeted that Section 2.2.1.1 does not require new applicability condition. Additionaly, the module has been amended that to the final model applied in projections must be the lower 95% confidence bound. Therefore, this CAR was closed correctly.	Date: 15/06/2011

No.:	CL#1	Reference: BL-UP
Validator request:	Please clarify the version number, in the title it is 2.0; while in the header it is 1.0.	
Project participant response:	Corrected to version 2.0 in header.	
Validator conclusion:	Verions number is now clear and coherent.	Date: 02/04/2011

No.:	CL#2	Reference: BL-UP
Validator request:	Please explain at STEP 2.2.1. the sentence about RRD stratification. Should not clear reference to X-STR be given? Please make clear why X-STR is not altered and needed to be updated. Please explain why there is no reference at STEP 4.1. to a stratification of this type. See CL3 as well.	
Project participant response:	The options provided for stratifying the RRD (Step 2.2.1) and the RRL (Steps 2.2.2.2 and 3.4.2) allow for determining different DP parameters (that may reflect different land-use dynamics or socio-economic circumstances) and for constraining deforestation within the RRL (to reflect access constraints, geographical barriers), respectively. Module X-STR is unrelated to these provisions, and remains unaltered, because X-STR relates only to the stratification of forest biomass carbon stocks. To avoid confusion, we have changed the wording from “stratified” to “divided into subsets” in Steps 2.2.1, 2.2.2.2 and 3.4.2 of the module revision.	
Validator conclusion:	The confusing word “stratification” has been removed, clear relationship to X-STR has been given; this CL was closed.	Date: 02/04/2011

No.:	CL#3	Reference: BL-UP
Validator request:	Please consider rewording the third paragraph of 3.4.2. SQS suggest removing “Note that” and the parentheses. Please check CL2 as well.	
Project participant response:	“Note that” and parenthesis removed.	
Validator conclusion:	Parenthesis removed, the CL was closed.	Date: 02/04/2011

No.:	CL#4	Reference: BL-UP
Validator request:	Please clarify, that why Equation 10 has not been simplified such as: $Pop_{i,t*} = Pop_{i,t2} * \left(\frac{Pop_{i,t2}}{Pop_{i,t1}}\right)^{\left(\frac{t*-t2}{t2-t1}\right)}$	
Project participant response:	The equation is correct. A spreadsheet demonstrating the application of the equation is provided with this response to illustrate. To explain further, the equation is broken down below to show its derivation: The term *K* (below) derives the rate from the last time interval:	

Validator response: Project participant response:	$$k = \left(\left(\frac{Pop_{i,t2}}{Pop_{i,t1}}\right)^{\frac{1}{t2-t1}} - 1\right)$$ The terms k is then incorporated in a standard exponential equation: $Pop_{i,t*} = Pop_{i,t2} * (1+k)^{t*-t2}$ The two equations were combined in the methodology to simplify and conserve space. Thank you for the clarification. SQS agrees with combining the two equations for better use, and that Equation 10 results with correct result even in its present form. In fact, it is the opinion of SQS that further simplification of the equation is possible (as suggested); therefore, to make Equation 10 even less complicated it should be changed accordingly. The calculation is correct and BL-UP has been revised to include the simplified Equation 10 suggested above.	
Validator conclusion:	The equation has been simplified as suggested; this CL has been closed.	Date: 2/4/2011

No.:	CL#5	Reference: P.8. [2]
Validator request:	At the end of 1.1.2. BL-UP the description of additional requirements for minimum leakage belt area is too broad. Please be more specific. What would be reasonable access bounds? Examples can be also useful for future PPs. How would this relate to the description of the leakage belt previously requested in 1.1.2.?	
Project participant response:	Originally, the requirement that the leakage belt must extend beyond the RRD (and thereby expand the RRL beyond the RRD) was incorporated into the methodology revision as a check to permit projected deforestation to cross political boundaries in all directions within the RRL (see second par following equation 11 on p. 22). On further consideration, this approach seems overly conservative, in that on the periphery of the RRD, deforestation generated by the outer census units that is directed in the RRL away from the project area is likely offset by deforestation generated by border districts outside the RRD (and not included in projections) that moves toward the project area (and into the RRL). Eliminating this requirement would make the RRL (within which deforestation generated by the population in the RRD is allocated) the same as the RRD, which would be consistent with the source data used in the static/dynamic analyses to determine parameter DP, which are restricted to population and deforestation within (not beyond) census units. Within the RRL, deforestation can cross political boundaries, as explained above, hence it operates as a larger, consolidated census unit. Checks are already in place in the methodology to constrain the allocation of projected deforestation within the RRL, namely through the requirement in Section 3.1.2 that the RRL must include anthropogenic factors (e.g. distance to sawmills, distance to settlements, distance to already cleared land, distance to forest edge). This spatial driver should provide ample assurance that projected deforestation, on application to the RRL, is not "cast" unrealistically far beyond the population centers driving it. This is why we have included the requirement that spatial modeling via the RRL must be used when ap-	

	plying the population driver approach. Given the above considerations, we propose to amend the following text from Section 1.1.3 "When using the population driver approach to project baseline rate of deforestation, the leakage belt must extend beyond the RRD to permit, on application of the projected deforestation rate to the RRL (step 3.4.2), that deforestation produced by the RRD population can advance in all directions (i.e. also away from the project area). The distance of expansion beyond the RRD should correspond to reasonable access bounds, i.e. should be accessible and reachable by the RRD population with consideration of mobility." To "When using the population driver approach to project baseline rate of deforestation, the leakage belt must extend to the RRD boundary." For reference and further explanation, we have provided with this response an illustrative case demonstrating the delineation of the RRD, RRL, project area and leakage belt when using the population driver approach, with the change proposed above.	
Validator conclusion:	Clear description of the leakage belt area is given; this CL has been closed.	Date: 2/4/2011

All documented proofs of evidence have been archived by SQS. They will be kept in a secure and retrievable manner for at least two years, i.e. until the end of the year 2013.