

VALIDATION REPORT FOR THE PROJECT

LACANDÓN-FOREST FOR LIFE REDD+ PROJECT

AENOR Asociación Española de
Normalización y Certificación

Contact Information

AENOR

6 Génova. 28004 Madrid – Spain

www.aenor.es

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Contact	Génova 6. 28004 Madrid- Spain. Telephone +34 914326000 lrobes@aenor.es , www.aenor.es
Approved By	Luis Robles
Work Carried Out By	Chief auditor: Jose Luis Fuentes Pérez Auditor: Manuel García-Rosell

Summary:

The purpose of the visit assessment was to determine the conformance of the project with respect to the VCS Version 3.5 Standard and information provided in the joint P.D.

The field visit took place on February 8-12, 2016 in which the auditors visited the project area, interviewed key stakeholders, staff and other related experts, and also reviewed the PD, and supporting documents. The scope of the validation was to assess the conformance of information in the P.D with the VCS.

The project area of the Lacandón REDD project covers 45288.81 hectares of forest established within the Mayan Biosphere Reserve (MBR), Guatemala.

AENOR has recently finished the VCS validation of the REDD project Guatecarbon also located in the Region of Northern Lowlands, Department of Peten, Guatemala. This project has been already registered and represents the first of its kind in Guatemala.

The National Government of Guatemala divided the country in five regions based on defined social, economical and geophysical characteristics that involve different deforestation patterns.

Petén-Lachua is the region where Guatecarbon and Lacandon projects are located and then, the used Reference Region. Thus, Lacandon project uses the same baseline that Guatecarbon but also many evidence and reasonings used to demonstrate other requirements of VCS. Therefore, mostly assumptions, formulas, calculations used by Lacandon have been already checked by AENOR at validation of Guatecarbon.

This validation report has been submitted to the PP in which 8 CARs and 4 CLs were reported (see validation protocol in appendix 2) for VCS. However, all these issues raised during the validation process where appropriately closed by means of corrections, more clear explanations and other supported documents.

Hence, once all issued detected were appropriately solved, AENOR carried out a final validation report and deems with reasonable level of assurance that the project complies with all of the validation criteria for VCS. The assessment team has no restrictions or uncertainties with respect to the compliance of the project with the validation criteria, hence, the audit team concludes that the net GHG emissions reductions or removals, for the lands included in the project boundary at validation stage has been quantified in accordance with VCS rules. AENOR reproduced calculations and can confirm estimated GHG emission reductions removals are correct, the project expects to avoid annual average net emissions of 238,875.56 t CO₂e for the whole crediting period which is well lower than 569,968.4 t CO₂e estimated in the first PD. This final data is result of corrections carried out due to CARs and CLs detected during validation process.

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1 INTRODUCTION

1.1 Objective

The purpose of the validation audit activity was to conduct an independent assessment of the project in order to determine whether the project complies with the validation criteria, as set out in the guidance documents listed in Section 1.2 of this report.

1.2 Scope and Criteria

Validation Scope: The scope of the validation audit is to validate the emissions reductions of the proposed project activity in Guatemala against the Verified Carbon Standard, the identified methodology and associated tools.

The objectives of this audit included a validation of the projects calculated emission reductions with the Verified Carbon Standard requirements and any additional requirements of VCS AFOLU projects, besides the assessment of the additionality and the risk assessment report.

The scope was defined as follows:

- The project and its baseline scenarios;
- The physical infrastructure, activities, technologies and processes of the project;
- The GHG sources, sinks and/or reservoirs those are applicable to the project;
- The types of GHGs that are applicable to the project; and
- The project crediting period, as discussed in Section 3.1.4 of this report

Standard Criteria: In accordance with Section 5.3.1 of the VCS Standard, the criterion for validation was the VCS Version 3.5, including the following documents:

- VCS Program Guide v 3.5
- VCS Standard 3.5
- VCS AFOLU Requirements v.3.4
- VCS AFOLU Non-Permanence Risk Tool v 3.2

Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS and CCB guidance document.

1.3 Level of assurance

The assessment was conducted to provide a reasonable level of assurance of conformance against the defined audit criteria and materiality thresholds within the audit scope. Based on the audit findings, a positive evaluation statement reasonably assures that the project GHG assertion is materially correct and is a fair representation of the GHG data and information.

All the revisions of the validation report before being submitted to the client were subjected to an independent internal technical review to confirm that all validation activities had been completed according to the pertinent AENOR instructions required. The technical review was performed by a technical reviewer(s) qualified in accordance with AENOR's qualification scheme for CDM/VCS validation and verification.

Name	Position in the team
Jose Luis Fuentes Pérez	Lead validator
Manuel García-Rosell	Validator
Luis Robles Olmos	Technical Reviewer

Validation team

1.4 Summary Description of the Project

The Lacandon - Forests for Life REDD+ Project focuses on reducing deforestation, improving the living conditions of the communities located within the Sierra del Lacandón National Park (SLNP) and surroundings.

By reducing deforestation, environmental function of the various ecosystems will continue, cultural and archaeological heritage is preserved and the emission of greenhouse gases from deforestation and degradation is avoided.

The Sierra del Lacandón National Park is one of the seven nucleuses of the Mayan Biosphere Reserve (MBR) which represents almost 20% of the surface of Guatemala and about 60% of the surface inside the Guatemala System of Natural Protected Areas.

The project zone is included in the Key Biodiversity Area (KBA) Selva Maya Corridor, which contains the second most extensive tract of continuous tropical rainforest in the Americas after the Amazon Forest, where Selva Lacandón and Sierra del Lacandón (Mexico/Guatemala) are one of the four keys biodiversity areas.

2 VALIDATION PROCESS

2.1 Method and Criteria

The validation was performed through a combination of document review, interviews with relevant personnel and on-site inspections, as discussed in Sections 2.2 through 2.4 of this report. At all times, the project was assessed for conformance to the criteria described in Section 1.2 of this report. As discussed in Section 2.5, findings were issued to ensure that the project was in full conformance to all requirements

2.2 Document Review

The Project Description submitted by the PP was reviewed against the approved methodology and against VCS. Additional background documents related to the project design, baseline, additionality, community and biodiversity objectives were also made available before and during the on-site visit in Guatemala along with the non permanence risk report.

To address the corrective actions and clarification requests that arose from the desk review and on-site visit, the consultants revised the project description document version 1 and developed a final version 3.1 dated on 7 June 2016.

2.3 Interviews

The AENOR validation team composed of José Luis Fuentes Pérez and Manuel García-Rosell conducted interviews with project developers to confirm selected information and to resolve issues identified in the document review.

From February 8-12 2016, the AENOR validation team carried out the visit to the project site. The list of the interviewed people is detailed below. The people interviewed were those directly affected or involved in the project activity, and in some cases were just indirectly affected.

Javier Marquez Barrientos	Director Desarrollo Institucional FDN
Obed Hoil	Coordinador de distrito de PNSL. FDN
Pascual Cristóbal Pablo	Socio Cooperativa Unión Maya Itza (UMI)
Salvador Xol López	Comité UMI Gobernanza suplente
Elke Mannigel	Oro Verde
Baltazar Silvestre	Cooperativa Unión Maya Itza
Victor David Giraldo Tirado	The South Pole Group
Edin López Tejada	Directo PNSL. FDN
Andrea Vera Arabe	South Pole Group

Hilda Dalila Pérez García	Técnico en Salud Sexual Reproductiva. Wings
Ángel Alfonso Velarde	Suplente Comité Gobernanza La Lucha
Walter Mendes	Presidente y representante legal del Comité de Gobernanza La Lucha
Juan Carlos Pérez López	UMI
Bartimeo Rodriguez	UMI
Gregorio López	Guarda-recursos CONAP. Argueta
Julio Cesar Valle	Coordinación Patrullaje FDN
Victor Enrique Couohj	Guardarecursos Argueta
Heriberto Lucero Martinez	Guarda recursos Argueta
Yoni Dubón	Guarda recursos CONAP. Argueta
Neri Jurado	Responsable Investigación y Monitoreo
Enrique López	IDEA
Mariano Ramírez	Familias de El Arroyo Yaxchilan en Comunidad Técnica.
Seferino Ramírez	
Marcos Ramírez	
Aurelio Ramírez	

Mavies Ramírez	
Gladis Nacho	
Rene Ramírez	
Amando Carvato	
Francisca Marroquín	
Elidio Ramírez	
Silverio Flores	Representante legal saliente La Técnica
Aroldo Martínez	Representante Comité Gobernación La Técnica
Efraín Pérez	La Técnica
Tránsito Carrera	Presidente COCODE Villahermosa
Obed Artola	Técnico FDN
Jorge Soza	Coordinador Desarrollo Comunitario Sierra Lacandón
Santos Soto	Líder Comunidad Manantialito
Juan Pablo Suchite	Vecino Manantialito

2.4 Site Inspections

The objectives of the on-site inspections performed were mainly to cross check the description provided in the P.D related to the environmental conditions of the project area, but also:

- Ensure that the geographic area of the project, as reported in the PD and the accompanying KML file, is in conformance with Section 3.11.1 of the VCS Standard;
- Perform a risk-based review of the project area to ensure that the project conforms to all other requirements of the VCS rules and the methodology.
- Observe the Project Proponent's field inventory crews collecting and recording data in order to assess whether data collection techniques conform to the monitoring plan and related documentation and to evaluate data quality control systems.
- Select samples of data from on-the-ground measurements for validation in order to meet a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 5.1.3 of the VCS Standard;

In fulfillment of the above objectives, the audit team performed an on-site inspection of the project area on the dates detailed above observing the project area and vicinity to assess whether conditions are as described in the Project Design. The audit team collected GPS tracking data and waypoints and took photographs to help correlate observations with mapping data supplied by the client in a KML file. The audit team observed inventory foresters and assistants collect field data on a sample of previously measured inventory plots, checking measurements and observing field procedures.

2.5 Resolution of Findings

All findings issued by the AENOR audit team during the validation process have been closed. In accordance with Section 5.3.6 of the VCS Standard, all findings issued during the validation process, and the inputs for their closure, are described in Appendix 2 of this report.

2.6 Forward Action Requests

No Forward Action Requests were raised to the PP during this process.

3 VALIDATION FINDINGS

3.1 Project Details

3.1.1 *Project scope, type, technologies, measures implemented and eligibility of the project*

The project is under Sectoral scope 14 – Agriculture, Forestry and Other Land Use. AFOLU project category: Reduced Emissions from Deforestation and Degradation (REDD).

Activity type: Avoiding Unplanned Deforestation and Degradation (AUDD)

The project is a group.

3.1.2 *Project proponent*

- Primary Project Proponent: Fundación Defensores de la Naturaleza
- Others PPs: La Lucha Cooperative, Unión Maya Itza Cooperative and La Técnica Agropecuaria Cooperative

Other entities involved in the project are:

- Oro Verde
- South Pole Carbon Assets Management
- FDN has a collaboration agreement with CONAP/CEMEC for monitoring activities.

The audit team finds that contact and entity information provided in the PD conforms to the VCS requirements. Roles and responsibilities are detailed in the P.D.

3.1.3 *Project start date*

According to VCS Program Definitions 3.5, project start date is the date on which the project began generating GHG emission reductions or removals. According to the VCS AFOLU Requirement version 3.4, in section 3.2 it is stated that the project start date of an AFOLU project is the date when activities that lead to the GHG emission reductions are implemented.

Taking into account the definition above, the project start date is February 1, 2012, the date on which began the project activities for avoiding deforestation, concretely; activities with communities to plan and implement the project began on that date. In this regard, the PP has provided a confirmation letter from La Lucha Cooperative to FDN confirming its participation on the project and assuming the objectives of the projects.

According to explanations from PP, such date was the date when the project proponents started the activities and started moving forward with the implementation of the first project activity of the strategy 1 as detailed in the PD. In substantiation of the above date, the audit team was provided with the documents that support it. Given the justification and substantiation provided to the audit team, the audit team concludes that the starting of this first project activity can be reasonably the start of generation of GHG emission reductions by the project, and therefore that the project meets the requirements for project start date set out in Section 3.7.1 of the VCS Standard.

3.1.4 *Project Crediting Period*

Section 1.6 of the PD states that crediting period runs from February 1 2012 to January 31, 2042, a total of 30 years.

In this regard, AENOR can confirm that PP have developed credible and robust plan for managing and implementing the project over the crediting period in compliance with section 3.3.1 of AFOLU Requirements.

According to the VCS Standard version 3.5, the crediting period of AFOLU projects will have a minimum of 20 years and a maximum of 100 years. Therefore, the project activity is in line with the length of the crediting period.

3.1.5 Project scale and estimated GHG emissions or removals.

The project is classified as “project” according its scale. It will remove an average of 238,875.56 t CO₂e per year during the crediting period, which is lower than 300,000 tons of CO₂e per year required by section 3.9.1 of the VCS Standard.

3.1.6 Project Location

The project area is the area that qualifies as forest at the project start date of the Unión Maya Itza Cooperative, La Técnica Agropecuaria Cooperative and La Lucha Cooperative and the properties of Naranjitos and Centro Campesino belonging to Fundación Defensores de la Naturaleza, all of them located within the legal boundaries of the Parque Nacional Sierra de Lacandón.

Table 1 of the section 1.2 in the PD includes the central coordinates of properties included in the validation. About half of its boundaries are international border with the Mexican states of Chiapas and Tabasco. The northeast borders is the multiple use zone of the MBR, the north limits with the state of Tabasco (Mexico), for the west is the Usumacinta River natural border with the state of Chiapas (Mexico), and south and east boundaries are the buffer zone of the MBR, within the municipalities of La Libertad and Las Cruces.

The location of all properties included in the project boundary of the project at the validation stage has been provided. Moreover, the polygons for every project area and a KML file have been provided to the validation team.

According to section 3.4 of the VCS Standard, as the project is categorized as grouped project, the project description sets out the geographic areas within which new project activity instances may be developed and the eligibility criteria for their inclusion. Such geographic areas have been defined with polygons in a KML file provided to AENOR.

Based on description of the grouped project, the geographic areas within new instances can be developed is the Parque Nacional Sierra de Lacandón in Guatemala.

Regarding conditions prior to the project initiation, the P.D described in a complete way the main biophysical and socio-economic aspects such as climate, hydrology, soil, etc.

3.1.7 Project compliances with applicable laws, statues, and other regulatory frameworks

Section 3.1 of the PD provides information related the compliance with the applicable laws, statues and other regulatory frameworks. According to the information provided and assessed during the on site visit, the main and relevant Laws were detailed and its enforcement analyzed in the PD.

The project design fulfils the laws identified in the PD as it was checked during site visit with FDN and other stakeholders. Moreover, the design and targets looked for by the project match with most of the issues promoted by the affected laws. Thus, AENOR deems that project complies with applicable laws, statues, and other regulatory frameworks.

3.1.8 *Ownership and other programs*

3.1.8.1 Right of use

Fundación Defensores de la Naturaleza is the owner of Centro Campesino and Naranjitos. Likewise, the three communities La Lucha, La Técnica Agropecuaria and Unión Maya Itzá present legal land tenure. The proof of title documentation has been provided to AENOR. Documentation confirms project proponents have the rights over the land and over the Certified Emission Reduction to be generated by the project activities taking place in these areas.

3.1.8.2 Emissions trading programs and other binding limits

GHG removals generated by the project will not be used for compliance with binding limits to GHG emissions since such limits are not enforced in Guatemala, and there is no emissions trading program in place in the country.

3.1.8.3 Participation under other GHG programs

The project has not been registered under any other GHG program.

3.1.8.4 Other forms of environmental credit sought or received

As the project has not sought or received other forms of environmental credit.

3.1.8.5 Rejection by other GHG programs

The project has never applied neither has been rejected by other GHG programs.

3.1.9 *Additional information relevant to the project*

3.1.9.1 Eligibility criteria for grouped projects

The project is grouped.

Taking into account the requirements of section 3.4.9 of the VCS Standard a set of eligibility criteria has been defined for the inclusion of new project activity instances if they are located within the grouped geographic project area. They have to comply with all the eligibility criteria that were stated in the P.D and reproduced below. Partial compliance of the eligibility criteria is insufficient.

The criteria are the following:

- All communities must have legal land tenure, i.e, property title or certifies of land use rights. For each new project instance, it will require that the community or the State present a certificate of land use and tenancy emitted by the corresponding authority.
- Cooperation agreement signed.

The cooperation agreement is signed between CONAP, FDN, Municipality of Las Cruces or La Libertad (depend on the location of the community) and the community involved. The main objective is to cooperate between the parties to adapt the legal permanence of the community in areas of the park and to ensure the integrity of the protected area.

The community undertakes to respect existing laws, not introduce or establish species of animals and plants that are not compatible with the rules of management of the park and ensure sustainability of natural resources with accompanying FDN (Refer to Cooperation agreement folder for an example).

- For the new instances a Geographic Information System shall be determined to see the potential forest areas to be deforested in the baseline case.
- The new instances shall meet the applicability conditions of the methodology applied at validation. This means:
 - *Baseline activities may include planned or unplanned logging for timber, fuel-wood collection, charcoal production, agricultural and grazing activities as long as the category is unplanned deforestation according to the most recent VCS AFOLU requirements.*
 - *Project activities may include one or a combination of the eligible categories defined in the description of the scope of the methodology.*
 - *The project area can include different types of forest, such as, but not limited to, old-growth forest, degraded forest, secondary forests, planted forests and agro-forestry systems meeting the definition of "forest".*
 - *At project commencement, the project area shall include only land qualifying as "forest" for a minimum of 10 years prior to the project start date.*
 - *The project area can include forested wetlands (such as bottomland forests, floodplain forests, mangrove forests) as long as they do not grow on peat. Peat shall be defined as organic soils with at least 65% organic matter and a minimum thickness of 50 cm. If the project area includes a forested wetlands growing on peat (e.g. peat swamp forests), this methodology is not applicable.*
- The new instances shall use and apply the same technologies or measures specified in the project description. In this regard, the PD defines in section 2.2 the strategies to be developed and the activities to be undertaken in order to reach the objectives.
- Free, prior and informed consent approved by the community

New instances must have developed local consultations and eventually must have a document signed by the community approving participate in the REDD+ project.

- Representative percentage of the families of the community in agreement with the project
The final document signed should have the approval of the families of the communities and no objection to those who do not want to be included.
- The new instances shall comply with the additionality and baseline conditions of the project activity at validation.

This condition implies the existence of agents of deforestation (local and external) due to reduced productive economics alternatives to the subsistence agriculture and cattle. Under these conditions, the new instances shall demonstrate that barriers identified in the project description would prevent the implementation of the project strategies and project activities unless they are part of the REDD project allowing overcoming them.

According to the bullet 3.4.3 of the VCS Standard, AENOR validated that additionality was based upon the initial project activity instances. As the grouped project geographical areas are those located within the National Park of Sierra Lacandón, then, any new instance has to demonstrate that its characteristics with respect to additionality are consistent with the initial instances for the

specified project activity and geographic area, i.e, to overcome at least one of the following barriers:

- Investment barriers
- Institutional barriers
- Technological barriers
- Barrier due to local tradition
- Barrier due to social conditions and land use practices
- Barriers due to land tenure, ownerships, inheritance, and property rights.

In addition, a common practice analysis shall be carried out for new instances in order to demonstrate that project activities remain as not common practice.

In this regard, AENOR checked that determination of the baseline scenario was carried out in compliance with the applied methodology, id est, the scenario represents the continuation of land uses under pre-project scenario.

Thus and considering the section 3.4.3 of the VCS Standard, AENOR validated that determination of baseline scenario was based upon the initial project activity instances and it was similar to the defined it for the remaining forests in Northern Lowlands. As the grouped project geographical areas are those located within the National Park of Sierra Lacandón, then any new instance has to demonstrate that is subject to the baseline scenario determined in the project description for the specified project activity and geographic area.

- A Non-permanence risk buffer assessment shall be performed for each new instance.
- New instances shall demonstrate that they are not included in another GHG program.

AENOR checked the criteria established for the inclusion of new instances. The list is complete and they are reasonable in order to guarantee and establish an appropriate maintenance of the project. PPs have provided to AENOR procedures for verification and monitoring purposes that describe the steps to be followed in order to determine if above conditions are fulfilled

The project provides for the inclusion of new instances as required by the VCS Standard the following conditions:

1. Occur within the areas of SLNP.
2. Comply with the complete set of eligibility criteria for the inclusion of new project activity instances. Partial compliance is insufficient.
3. Be included in the monitoring report with sufficient technical, financial, geographic and other relevant information to demonstrate compliance with the applicable set of eligibility criteria and enable sampling by the validation/verification body.
4. Be validated at the time of verification against the applicable set of eligibility criteria.
5. Have evidence of right of use, in respect of each project activity instance, held by the project proponent from the respective start date of each project activity instance.
6. Be eligible for crediting from the start date of the instance through to the end of the project crediting period.

3.1.9.2 Leakage management for AFOLU projects

The project considers Leakage Management Areas, non-forest areas, within the instances. The activities will be focused on reducing the impacts of deforestation agents. Nevertheless, section 5.2 of the project description provides further information about this issue.

3.1.9.3 Commercially sensitive information

No information has been excluded from the public version of project description in order to demonstrate the additionality of the project and the baseline scenario. All information used has been provided and there has not been information deemed to be commercially sensitive for these goals.

3.1.9.4 Further information

The project is also searching the registration under CCB Standard.

Thus, once AENOR performed the on site visit, interviewed project participants, reviewed the rights of use, proofs of registration, maps and other registers, AENOR deems that project description in the P.D is accurate, complete, and provides an understanding of the nature of the project.

3.2 Application of Methodology

3.2.1 Title and Reference

The approved VCS Methodology VM0015, version 1.1 (Methodology for Avoided Unplanned Deforestation) is applied to the REDD project.

3.2.2 Applicability

The final P.D states all evidence used to demonstrate each condition of the applicable methodology. Complete explanations are included in section 4.2 of the P.D and mainly in the methodological annex provided to AENOR. In opinion of AENOR, the evidence and explanations confirm the fulfillment of the project with the methodology. The assessment was carried out for each applicability criterion and included, among others, the review of evidence and sources provided in the P.D and supporting documents, and the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures as follows:

- a) Baseline activities may include planned or unplanned logging for timber, fuel-wood collection, charcoal production, agricultural and grazing activities as long as the category is unplanned deforestation according to the most recent VCS AFOLU requirements.

As stated in the PD and its appendix I, in accordance with the VCS AFOLU requirements, the baseline activity corresponds to unplanned and planned deforestation, but also considers the conversion of forest areas to agriculture and pasture classes through unplanned deforestation.

During site visit, AENOR took evidence of these different situations across the project area.

- b) Project activities may include one or a combination of the eligible categories defined in the description of the scope of the methodology (table 1 and figure 2).

The project is an Avoided Unplanned Deforestation (AUD) activity in a generally frontier, but locally mosaic landscape configuration. The scope of the project includes the eligible categories A, B, C & D. However, category "D" is the most relevant to the project due to the mix of legal and illegal timber harvest in the baseline scenario, and the continuance of legal harvesting in the project scenario.

The project area can include different types of forest, such as, but not limited to, old-growth forest, degraded forest, secondary forests, planted forests and agro-forestry systems meeting the definition of “forest”.

The project area includes the types of forest such as Broadleaf forest low/sub-humid (BB-SH), Broadleaf forest medium-high/sub-humid (BMA-SH), Broadleaf forest medium-high humid (BMA-H). These three types are registered in the leakage belt, however, the project area just presents BMA-H.

- c) At project commencement, the project area shall include only land qualifying as “forest” for a minimum of 10 years prior to the project start date.

Only land qualifying as “forest” for a minimum of 10 years prior to the project start date has been included in the project area. That was verified through the use of imagery. The forest cover benchmark map 2000, 2007 and 2010 was provided to AENOR. In accordance with the definition of forest adopted by the government of Guatemala to the UNFCCC the following parameters are considered:

- A minimum canopy covers of 30 per cent,
- A minimum land area of 0,5 hectares, and
- A minimum tree height of 5 m.

- d) The project area can include forested wetlands (such as bottomland forests, floodplain forests, mangrove forests) as long as they do not grow on peat. Peat shall be defined as organic soils with at least 65% organic matter and a minimum thickness of 50 cm. If the project area includes a forested wetlands growing on peat (e.g. peat swamp forests), this methodology is not applicable.

The project area does not include forested wetlands growing on peats. PPs have provided a report from CONAP and INAB. The report concludes that Department of Peten where the project is located does not present the category of Wetlands with forests.

AENOR, based on records provided including spreadsheets calculations of the emissions reductions, has verified that applicability conditions of the methodology are complied.

3.2.3 *Project Boundary*

The VCS Standard requires that projects describe the project boundary and identify and select appropriate carbon pools; i.e. sources, sinks, and reservoirs relevant to the baseline.

Procedures to quantify emissions are included for each of these pools and sources by demonstrating significance in using the appropriate VCS modules and tools.

The project addresses the establishment of spatial, temporal, and gaseous boundaries to meet VCS AFOLU Requirements for the REDD project category under the AUDD project scenario.

Spatial boundaries

- a. The reference region was defined according to their similar geophysical, social and economical characteristics. The option 2 of the section “1.1.1 Reference Region” is applied to the project, i.e, there is not an applicable national or sub-national baseline available.

In the case of Guatemala, the National Government divided the country in five regions based on defined social, economical and geophysical characteristics that involve different deforestation patterns.

Petén-Lachua is the region where the project area is located and then, the used Reference Region. PP provided to AENOR with the report of the Environment and Natural Resources Minister. 2011. "Preparation proposal for REDD (R-PP) in Guatemala." This report contains all this information related the strategy and planning for REDD activities.

The following criteria of the methodology have been met by the project to define the boundaries of the reference region:

- Agents and drivers of deforestation expected to cause deforestation within the project area in absence of the proposed AUD project activity must exist or have existed elsewhere in the reference region.

According to information provided by PP and cross-checked during site visit with main stakeholders, the main deforestation agents existing in the project area and reference region are small, medium and big scale cattle rancher and subsistence agriculturalists. Neither new or improved infrastructures nor other special drivers are expected to influence the project area.

- Landscape configuration and ecological conditions: PP demonstrated to the AENOR team that the project area is within the required thresholds for the forest/vegetation classes, elevation and slope criteria. The conditions are demonstrated with data referenced in the technical annex and evidence that support the assumptions considered.
- Socio-economic and cultural conditions: The legal status and land tenure in the baseline case in the project area exists in the reference region. The project area at validation only registers private ownerships that exists in both P.A and R.R.

Related the land uses in baseline scenario in the project area they are also found elsewhere in the reference region, mainly the extensive cattle and subsistence agriculture.

The total project area is subject to the legislation for protected areas. This situation is also registered in the reference region.

b. The project area belonging to the first instance at validation is 45288,81 hectares.

This project area encompasses the forests areas of cooperatives Unión Maya Itzá, La Técnica Agropecuaria y La Lucha as well as the properties of Fundación Defensores de la Naturaleza, Naranjitos y Centro Campesino.

At the project start date, the project area must include only forest land. Landsat images, KLM files and coordinates were provided to the audit team and confirm that project area is forest as defined by Guatemalan DNA.

c. Leakage belt;

To determine the leakage belt (44955,18 ha) the mobility analysis was used. To discard the option 1, opportunity cost analysis; the PP provided credible justifications supported by several reports of the region. Further information is provided in annex to the PD.

d. Leakage management areas

The leakage management areas represent 4764,62 ha of non forested lands. Maps and GIS data was checked by the audit team.

e. Forest.

The definition of forests is: a minimum land area of 0.5 ha that must be covered in a minimum of 30% of tree tops and with trees of a minimum high of 5 meters at maturity.

Temporal boundaries, they are in compliance with the applied methodology.

- The starting date and end date of the crediting period is February 1 2012 and January 31 2042, for a total of 30 years.
- The historical reference period was established for 10 years, from year 2000 to year 2010.
- The first fixed baseline period is defined on February 1 2012 and the end date to January 31 2022.

The technical annex and P.D state that monitoring period will be for two years, and it won't exceed the fixed baseline period.

Thus, the spatial and temporal boundaries for the Project were assessed for conformance to VCS rules and found to be sufficiently detailed, appropriate, and adequate as well as in compliance with the methodology.

Carbon pools

The validation team found that mandatory and optional pools in this project are appropriate for unplanned conversion of forest.

Significant pools, sinks, and reservoirs accounted for are in compliance with AFOLU Requirements section 4.3 and are appropriately justified for the project.

To identify the carbon reservoirs mandatory and optional for the proposed project the methodological framework and AFOLU Requirements were used. Tables below show the reservoirs applied and sources of GHG emissions for the project activity.

Carbon pool		Whether selected	Justification/Explanation
Above-ground biomass	Tree	Yes	This pool represents the major changes in carbon storage and is always significant.
	Non tree	Yes	Non-tree biomass estimates only apply to the post-deforestation class "ANG".
Below- ground biomass		Yes	This pool is optional according to the methodology VM0015, V1.0. It was calculated using expansion factors (root-to-shoot ratios).

Dead Wood	No	This is an optional pool according to the methodology. For the proposed project was initially estimated but ruled out due to its insignificance.
Litter	No	Not applicable to REDD projects under VCS.
Soil organic Carbon	No	This pool is recommended by the methodology VM0015, V1.1 when forests are converted to crops. In the case of the reference region, most of the crops established after forest clearing are temporary and are replaced by cattle after a few years. For the project has been excluded.
Harvested Wood products	No	This pool is mandatory according to the methodology VM0015, V1.1, but may be excluded if not significant. In this case it was excluded because it is a not significant pool.

Source		Gas	Included?	Justification/Explanation
Baseline/Project	Biomass burning	CO ₂	No	CO ₂ is a major source that is already considered for carbon stock changes and is therefore not included. CH ₄ is not included for sake of conservativeness and allowed by the methodology calculations, and N ₂ O emissions are insignificant, too, according to VCS program update of May 24, 2010.
		CH ₄	No	
		N ₂ O	No	
Baseline/Project	Livestock emissions	CO ₂	No	CO ₂ emissions from cattle are not significant according to the methodology. CH ₄ and N ₂ O emissions are also excluded for sake of conservativeness.
		CH ₄	No	
		N ₂ O	No	

3.2.4 Baseline Scenario

A complete description of the baseline scenario and its justification is provided in the methodological annex of the P.D.

Following the applicable methodology an analysis of historical land use and land cover change was carried out. The historical reference period runs from 2000 to 2010, then it fulfils with terms of meth (as close as possible to the project start date, January 30 2012, ≤ 2 years). Subsequently, it was carried out the analyses of agents, drivers and causes of deforestation that show an expansion of the agricultural and cattle frontier in the geographical area of the proposed project.

Finally, the deforestation was projected and the baseline scenario was established considering two different approaches for the projection of the deforestation rates. The reference region was divided in three different strata (strata 1: Maya Biosphere Reserve excluding Buffer Zone; strata 2: Buffer zone; Strata 3: Rest of the lands in the Reference Region). These strata were created according to the agents and drivers behavior in the reference region. Deforestation rates are projected as a function of time, using approach “b” from the methodology VM0015 for the strata 1 where the project area is located, considering that this is the only area where there are still forest areas available to be deforested in the future and the area where an increasing trend has been observed in the past. The other two strata use approach “a” for the projection of the deforestation rate into the reference region.

Thus, after the baseline methodology is applied, the baseline scenario is the continuation of pre-project situation, i.e, the increase of deforestation by insufficient control and governance over the area, among other causes. Conversion of forest areas to agricultural and grassland under pressure from deforestation agents, even the areas devoted to subsistence agriculture and livestock are increasing outside the areas designated for such purpose. These situations trigger instability and threaten in the concession arrangements, increasing the uncertainty, lack of control over the territory and resulting in more illegal activities.

AENOR deems that procedures, assumptions, justifications and data used in the identification of the baseline scenario are appropriately justified and can be deemed reasonable. Documentary evidence used in determining the baseline scenario is relevant, and correctly quoted and interpreted in the project description and mostly in the methodological annex to the PD. Relevant national and/or sectoral policies and circumstances have been considered and are listed in the supported documents. Thus, AENOR considers that the identified baseline scenario is correctly justified and in compliance with VCS requirements.

3.2.5 Additionality

To demonstrate the additionality of the project the VCS T-ADD tool, “VT0001 Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities” v. 3.0 is used.

The steps of the VCS tool were applied and appropriately developed and justified in the P.D. As a conclusion, the baseline scenario in the project area is the continuation of the pre-project situation.

Project proponents properly selected applicable sub-steps 1a and 1b, “Identify credible alternative land use scenarios to the proposed VCS AFOLU project activity” and “Consistency of credible land use scenarios with enforced mandatory applicable laws and regulations”, respectively. Other sub-steps contained within the T-ADD tool deemed not applicable by project proponents and confirmed by the validation team. Project proponents correctly identified three credible and realistic alternative land use scenarios from the outcome of sub-step 1a:

- Scenario 1 that represents the continuation of the pre-project situation, i.e, the permanence of the forest concessions but illegally practices increases due to the insufficient control and lack of governability.

The cooperation agreements between the government and the inhabitants might not be respected and generate uncertainty in the communities about the ownership and classification of the land, lack of control of the territory and higher rates of change of land use.

- Scenario 2. that represents the implementation of the proposed project without being registered as VCS.

This scenario considers the effective protection of the areas designed as “protected areas” and the associated biological corridors identified by the Government of Guatemala. These areas are officially managed by CONAP whereas in the case of SLNP the management is effectively undertaken by FDN, based on an agreement between both institutions. This scenario also considers stop the expansion processes of agriculture and cattle ranching areas and the forestry plantations to areas that are not considered in the management plans already approved by the relevant authorities. To the same extent, this scenario considers only those human settlements that already existed before the reserve was created and that remain according to the Decreto 5-90 Art.5-6, but also the enforcement of the law for protected areas (Decreto 4-89) in these communities.

This scenario is only possible if CONAP and FDN have sufficient resources and capacity to demonstrate full control and enforcement across the project area in order to prevent illegal deforestation, illegal settlements, and unsanctioned land uses and land cover conversions.

Nowadays the protection of forests in Guatemala does not consider the stand-alone capacity of the Government of Guatemala or its subsidiary bodies. Rather, the protection of forests and biodiversity is extremely reliant on development aid and conservation programs financed by external actors and often executed by national NGO in coordination with Guatemalan organizations. Thus, even if Scenario 2 is a feasible scenario, the time that it would take for achieving the protection of forests and biodiversity exclusively through funding and capacities stemming from Guatemalan institutions would jeopardize the conservation of forests that are nowadays experiencing relevant deforestation rates.

- Scenario 3. If applicable, activities similar to the proposed project activity on at least part of the land within the project boundary of the proposed VCS AFOLU project at a rate resulting from:
 - Legal requirements; or
 - Extrapolation of observed similar activities in the geographical area with similar socio-economic and ecological conditions to the proposed VCS AFOLU project activity occurring in the period beginning ten years prior to the project start date.

The project proposes the coordinated work between communities and FDN through strategies for reduce deforestation in the long term and integrating the institutional strengthening environmental governance and development work in the field with local populations. Similar activities could be found in the area, or at least part of the area, but under external cooperation programmes with limited time financing.

Some activities under the scenario 1 do not comply with mandatory applicable laws and regulations. There is a systematically lack of enforcement of the law, the non compliance is widespread. The unplanned deforestation in the Reference region occurs in both protected areas and Forestry

Concessions as deforestation data provided demonstrate. However, scenario 2 and 3 complies with mandatory applicable laws.

As a result of the assessment well detailed in the PD for the sub-step 1b, the scenarios 2 and 3 are clearly in compliance with the current legislations in place. The situation for the scenario 1 is that most of activities carried out in the pre project scenario are legal and others are illegal such as illegal logging that involves a continuously breach of the regulations.

Thus, the project proponents also correctly establish the outcomes of sub-step 1b. All proposed land use scenarios are credible and arise from the application of law (scenarios 2 and 3) or the systematic in compliance of regulations (scenario 1).

The following step of the additionality tool is sub-step 1c to determine the baseline scenario. PP has to follow step 2 or step 3. For the proposed project activity, the barrier analysis has been selected as commented below:

Thus, the sub-step 3a of the tool was applied to determine whether the proposed project activity faces barriers that:

- a) Prevent the implementation of the proposed project activity without the revenue from the sale of GHG credits; and
- b) Do not prevent the implementation of at least one of the alternative land use scenarios.

The barriers identified in the assessment were:

Investment barrier

CONAP is the entity that manages the MBR, where SLNP is located. Despite the increase in budgets assigned to CONAP by the Government from 2008 to 2015, the rate resulting from budget for maintenance and conservation of these areas is not enough due to the huge amount of protected areas throughout the country for these purposes. This rate does not allow financing all of the monitoring and enforcement activities needed to adequately manage these areas, especially those areas that are distant and more inaccessible, like the MBR. Although both national and international organizations and others have made contributions to alleviate this need, it has been demonstrated they are insufficient and do not substitute the lack of funds needed by the State to adequately manage all the protected areas, as a result the deforestation increases in the country. This includes monitoring and enforcement, boosting technical and administrative capacities within the concessions to rise and diversity incomes, and increasing other social services, which have already been described in section 1.8 of this document.

In addition, FDN has no own financial funds for the administration of SLNP, and depends on projects with limited funding and time. Without these external financing it would be difficult the administration of SLNP for FDN.

Thus, this barrier prevents scenario 2 (ii) from being a plausible scenario but allows scenario A to remain an option.

Institutional barrier

This barrier is directly related to the efficiency of administrations to resolve the different illegal cases detected in the MBR. According to the 2015 Governance study by CONAP from 1999 to 2013, only 18% of the legal cases originating in the MBR reached the sentencing phase, while the average time for processing a case is 1 year and 5 months. This is an important barrier in order to discourage to the agents of deforestation and illegal situations.

The most frequently documented illegal activities are illegal timber harvesting and transport, trafficking of flora and fauna, and unsanctioned settlements, which in total account for 45% of the cases reported during monitoring patrols in the reserve.

AENOR has checked with information provided by FDN and also gathered from Guatecarbon project that the State of Guatemala increase its staff around 53% and its infrastructure for enforcement activities in the MBR by 17% between 2008-2014 (CONAP, 2015).

This increment is attributed to the increased presence of staff from the Institute of Anthropology and History (IDAEH), the armed services, and of CONAP. However, these staff and infrastructure increases have not been evenly distributed in the reserve and there are still numerous and extensive areas without government presence or out of law. In addition, during the last two years (2013-2014) there was a decrease in the number of staff assigned to monitoring and enforcement activities, most notably through the IDAEH and the armed forces of Guatemala. Therefore, this barrier also excludes scenario 2, while scenario A remains a viable alternative.

Technological barrier

This barrier is linked to Investment barrier, where protected areas present a lack of necessary and sufficient resources to acquire equipment and tools, which is reflected in monitoring and surveillance process.

Most projects are carried out with external financial. Monitoring deforestation is performed with remote sensing. However, additional investigation in the field is needed. This includes, for example, the determination of biomass or the detection of changes of land-use. While for large scale instance, deforestation can be quite easily detected with remote sensing, but degradation of forests can hardly be discovered with medium high resolution pictures. Unfortunately, the use of higher resolution data has also higher costs, and it is impossible to achieve for the project at the present.

Barrier related to local tradition

The rapidly increase of population in the MBR, even in the core zones, as the CONAP's demographic study "Monitoreo de Gobernabilidad" (2015) suggests as well as the increase (up to 95% with respect to the value calculated in 2000) in the road network existing within the MBR due to needs of local communities means a serious barrier that can diminish the chance of meeting the MBRs management objectives in the medium and long term. This barrier represents a challenge for positing Scenario 2 as a plausible scenario in terms of the ability to consistently maintain adequate enforcement and protection activities and suggests that Scenario 1 is more probable.

Needs of local communities is basically based in agriculture crops of maize. In this regard, the customs of two of the main population groups in Peten, Ladino and Q'eqch'í small farmers, is to settle in remote regions and cleared forest at a rapid pace to open up land for maize agriculture. It is interesting to highlight that AENOR could take note of several incidents of this type during the site visit to the project area commented by the forestry guards.

Barriers due to social conditions and land-use practices

The usual land practices in the SLNP are the cultivation of basic crops through the process of slash and burn. This has a great impact on the natural landscape of the SLNP. Furthermore, when the capacity of the soil decreases, these areas are converted to pasture for cattle production during a few years due to its productivity is getting worse and then, these lands are abandoned.

These practices were encouraged during the 50s by the State. In 1959 was created the “Empresa de Fomento y Desarrollo de Petén - FYDEP” (Promotion Enterprise and Development of Peten), who mandated to “colonize the department and generate agricultural development”. This measure boosted the deforestation in Peten.

Barriers relating to land tenure, ownership, inheritance, and property rights.

The proposed project will work to overcome these barriers improving the governance of the area and biodiversity conservation searching the approval of all stakeholders in the area to avoid misunderstanding over rights, land uses, enforcement of law, etc.

Subsequently, the sub-step 3b of the tool was applied. The barriers identified do not prevent the implementation of at least one scenario, in this case, the scenario 1, i.e, the continuation of the current situation.

According to the tool If both Sub-steps 3a – 3b are satisfied, then proceed directly to Step 4 (Common practice analysis). As this is the case, the PP carried out an analysis **of the common practice**.

In this regard, the analysis includes the identification of similar activities already implemented or currently underway.

The analysis performed concludes that no similar activities to the proposed project have already implemented or currently underway, excluding activities under carbon schemes (Guatcarbon is the case)

Other initiatives searching similar targets were analyzed, but they differ from the proposed project due to several reasons such as the geographic scope or the financial security in the medium to long term, the lack of integration policies that includes local communities, etc.

Hence, after the assessment of the explanations and justifications in the P.D and the review of the submitted evidence, also detailed in the project document, AENOR deems credible and reliable the supported documents provided. The information described in the P.D is consistent with them. Thus, it can conclude that there are several characteristics that make each activity different, not similar to the REDD Lacandón project, then, not comparable. Thus, the project activity is not the baseline scenario, it is not the common practice and hence, it is additional.

The incomes from VCUs will help to overcome the faced barriers by the project.

3.2.6 Quantification of GHG Emission Reductions and Removals

Procedures for quantifying the baseline emissions from unplanned deforestation were conducted in accordance with the methodology VM0015 version 1.1. The validation team performed an intensive review of all input data, parameters, formulas, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS documentation, methodology and associated tools, and the PD. Further, the validation team reproduced calculations for selected samples to ensure accuracy of the results. Conversion factors, formulas, and calculations were provided by project proponents in spreadsheet format to ensure all formulas were accessible for review. The validation team recalculated subsets of the analysis to confirm correctness. Project proponents also provided a step-by-step overview of select calculations to ensure the validation team understood the approach and could confirm its consistency with the methodologies and PD. Where applicable, references for analysis methods or default values were checked against relevant scientific literature for best practice.

Baseline emissions

The Project has appropriately included baseline emissions calculations in the PD per the VCS Standard Section 3.18.2 and further information is also included in the technical annex to the PD also provided to AENOR.

Data and parameters selected for spatial and temporal boundaries were found to be properly chosen and calculated accurately from verifiable sources as well as the sources of GHG emissions and pools.

Once project boundaries were defined and assessed as commented in sections above, the following step is the analysis of historical land use and land cover change. The goal of this step is to collect and analyze spatial data in order to identify current land-use and land-cover conditions and assess the changes during the historical reference period within the reference region and project area.

To identify the LU/LC classes within the reference region and project area, PP used imagery from Landsat Thematic Mapper and Landsat Enhanced Thematic Mapper and performed an historical analysis from 2000-2007 and 2007-2010. 18 LU/LC were identified based on data sources, this is well detailed in P.D and annex.

The next step was to analysis the agents, drivers and causes of deforestation and subsequently to project the future deforestation in two terms, the quantity and the location. By doing so, it is obtained the estimated annual areas of future deforestation in the project area. To be more accurate, the PP split the R.R in three strata:

- Strata 1: Maya Biosphere Reserve excluding the Buffer zone
- Strata 2: Buffer Zone
- Strata 3: Rest of the Reference Region

To calculate the projected area of future deforestation the applied methodology offers three options: a Historical Average approach, a Time Function approach, and a Modeling approach. For stratum 1 the project uses b) a Time Function approach, because there is a likely increasing trend in the deforestation rate. Strata 2 and 3 use the a) the Historical Average approach because there is reason to believe that the deforestation rate may stop rising during the project lifetime due to scarcity forest land, and therefore a historical average may be more accurate.

Subsequently, the deforestation risk model that applies the deforestation to stratum 1 of the reference region is combined with the project area and leakage belt boundaries in a GIS file to reach the annually projected deforestation areas. Following tables shows those areas in P.A and L.B for the first fixed baseline period.

Project year t	Project area (Ha)	Leakage belt (Ha)
1	561,06	3.174,98
2	781,47	2.075,58
3	706,31	2.329,41
4	1.037,95	1.337,78
5	958,70	1.287,20

6	883,73	1.329,13
7	1.156,53	797,08
8	1.618,89	773,31
9	1.807,70	608,67
10	2.129,01	386,24

After projecting the quantity of future deforestation, PP projected its location using the Dinamica Ego to create a risk map. The spatial modeling related to location and quantification of threats of unplanned deforestation was checked for accuracy and development of risk maps was confirmed correct. Seven risk maps were produced based on several factor maps and the map with the “figure of merit” highest was selected. This step is wide detailed in step 4.2 of the technical annex.

According to the methodology the next step is the calculation of the baseline activity data per initial forest classes, per post deforestation classes and LU/LC change category. In this step, the annually projected deforestation areas are translated to the forest classes and then combined with their respective emissions factors in order to estimate GHG emissions from deforestation.

Previously from the LU/LC map are taken the initially forest classes in the project area and leakage belt to estimate the baseline carbon stock changes and Non CO2 emissions. To do this, Wildlife Conservation Society and CONAP carried out an assessment of the forest classes grouping them based on the degree to which they are subjected to seasonal flooding and by the relative degree of annual precipitation they receive. Based on this, the three forest classes presented in R.R, P.A and L.B were as listed above:

- Broadleaf forest low statured sub-humid (BBSH)
- Broadleaf forest medium-high humid (BMAH), only presented in project area.
- Broadleaf forest medium-high statured sub-humid (BMASH)

Related to the post-deforestation classes, AENOR checked that project proponents selected the method 1 (historical LU/LC change) to establish the baseline activity data for the post-deforestation classes.

Three post deforestation classes were identified just after the deforestation event occurs. They are:

- Cattle-fallow-pastures (ANG)
- African Palm Oil
- Secondary forest.

Measurement deviations and assumptions were applied to include among others the variability and dynamic of the “fcl” across the time. By doing so, PP has established two post deforestation “zones” from the three forest classes subject to deforestation, i.e, BB-SH, BMA-H and BMA-SH and used the following assumption “that the post-deforestation classes that are established within a humid vs sub-humid zone wouldn’t have major differences in their carbon stocks” and then the humid vs. sub-humid distinctions established for the initial forest classes was eliminated and just two zones of post deforestation classes remain, i.e, BBSH and BMA. This way a change matrix (table 9 of the technical annex) was performed

between the initial post deforestation classes and the post deforestation zones. Tables 12 and 13b-c of excel spreadsheet and technical annex describe faithfully the calculations and assumptions.

Calculation of activity data per LU/LC change category was not applied because the method 1 was used instead of method 2.

AENOR validated all methodological deviations, assumptions and approach carried out for the Step 5 of the VM0015 and deems reasonable and correct based on information provided.

To estimate the carbon stored in pools, PP used existing data from forest inventories from Concessions of the MBR, permanent samples plots of forest monitoring, forest inventory from the Lachúa protected area and Forest inventory and carbon assessment from the National Park Sierra de Lacandón.

AENOR deems appropriate and suitable these data sources as allowed by the methodology, except data older than 10 years. In this case a methodology deviation was considered which is analyzed in deviation section of this report.

To estimate the carbon stored in aboveground and belowground biomass, the step 6 “Estimation of Baseline Carbon Stock Changes and Non-CO₂” of the applied methodology was used. PD and mainly, annex to the PD give information about the steps followed. AENOR checked the sampling, dates of inventories, allometric equations, sources to select them, defined values to parameters such as ratio below/ground biomass, assessed the assumptions and reproduced the calculation provided by PP. The uncertainty assessment was calculated to be 7%, below 10%, then, the average carbon stock value was used.

Results are summarized in the following table:

Forest Classes	Average tn CO ₂ e/ha. AGB.	Average tn CO ₂ e/ha. BGB
Broadleaf forest low statured sub-humid	264 tn CO ₂ /ha	63 tn CO ₂ /ha
Broadleaf forest medium-high statured sub-humid	315 tn CO ₂ e/ha	76 tn CO ₂ /ha
Broadleaf forest medium-high statured humid	344 tn CO ₂ e/ha	83 tn CO ₂ /ha

Likewise, the estimation of the 20 years long term average carbon stocks in the three post deforestation classes, Cattle-Pasture-Fallows, African Oil Palm and Secondary forest (regeneration) resulted in the following values:

Forest Classes	Average tn CO ₂ e/ha. AGB.		Average tn CO ₂ e/ha. BGB	
	Zone BB-SH	Zone BMA	Zone BB-SH	Zone BMA
Cattle-Pasture-Fallows (ANG)	16,5tnCO ₂ /ha	12 tn CO ₂	26.7 tnCO ₂ /ha	19.4 tnCO ₂

African oil palm	0 tnCO ₂ e/ha	11.2 tn CO ₂	0 tnCO ₂ e/ha	2.7 tnCO ₂
Secondary forest (regeneration)	0.22tnCO ₂ e/ha	2.2 tn CO ₂	0.1tnCO ₂ e/ha	0.5 tnCO ₂

The project estimated the deforested areas by strata in the project area and leakage belt in the absence of the proposed project. PD and technical annex give complete information about the method used. AENOR checked that information provided is complete, reliable and in compliance with criteria and requirements of the VM0015 Methodology.

As a result, the baseline carbon stock changes were calculated by multiplying the annual deforested areas with carbon stock changes. Results are shown below for the project area and leakage belt for the first fixed baseline period.

For the project area

Total net carbon stock change in the project area including illegal Harvested Wood Products (Cwp)	Total carbon stock change resulting from planned legal harvests in all forest classes in the project area in the baseline case (Dw+Cwp)	Total net carbon stock change in the project area including legal + illegal Harvested Wood Products (Cwp)
- 194.108,7	- 98,1	- 194.206,8
- 272.297,2	- 68,4	- 272.365,7
- 248.991,6	- 124,3	- 249.116,0
- 366.166,8	- 107,4	- 366.274,2
- 342.330,7	- 154,0	- 342.484,7
- 319.703,2	- 164,0	- 319.867,2
- 417.131,1	- 156,7	- 417.287,8
- 581.082,5	- 182,5	- 581.265,0
- 651.993,9	- 226,8	- 652.220,7
- 769.395,7	- 211,0	- 769.606,7

For the Leakage belt

Total net carbon stock	Total net carbon	Total carbon stock	Total net carbon
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change in the aboveground biomass in all forest classes in the leakage belt	stock change in the belowground biomass in all forest classes in the leakage belt	change from illegal harvested wood products from the initial forest classes in the leakage belt	stock change in the leakage belt including illegally Harvested Wood Products (Cwp)
- 1.080.530,4	- 18.944,2	4.097,4	- 1.095.377,2
- 698.739,1	- 31.339,0	2.678,6	- 727.399,5
- 780.231,5	- 45.258,6	3.006,2	- 822.484,0
- 436.687,1	- 53.257,1	1.726,4	- 488.217,7
- 415.586,9	- 60.942,0	1.661,2	- 474.867,6
- 426.858,4	- 68.883,5	1.715,3	- 494.026,6
- 241.822,4	- 73.634,7	1.028,7	- 314.428,4
- 232.073,5	- 78.253,9	998,0	- 309.329,5
- 173.376,7	- 81.873,6	785,5	- 254.464,8
- 95.942,0	- 84.159,7	498,5	- 179.603,3

On the other hand, forest fires are an important cause of deforestation and it is not mandatory by the methodology to include emissions of non CO₂ gases because their exclusion is conservative. This approach has been followed by PP.

After all, AENOR deems that followed steps are in compliance with VCS requirements, the appropriateness of equations and data used for parameters is correct, then, the results achieves are an accurate estimation of baseline biomass.

Project emissions

Following the methodology and taking into account the design of the proposed project activity an ex ante estimation of actual carbon stock changes due to planned degradation is determined by PP. Table 25b from VM0015 contains the total carbon stock decrease due to planned logging activities in forestry concessions.

In addition, an ex ante estimation of unavoidable unplanned deforestation within the project area was calculated using an effectiveness index of 45%. They are detailed in table 27 of the VM0015.

Likewise, carbon stock increases due to planned activities or to avoid planned deforestation have been excluded for sake of conservativeness.

The ex ante estimation of actual non CO2 emissions from forest fires is not included in the project boundary.

Thus, the final results for the ex ante estimation of project emissions are:

Total carbon stock decrease due to planned activities $\Delta\text{CPAdPA}_{\text{t}}$ (tn CO2)	Total carbon stock increase due to planned activities $\Delta\text{CPAdPA}_{\text{t}}$ (tn CO2)	Total carbon stock decrease due to unavoided unplanned deforestation $\Delta\text{CUDdPA}_{\text{t}}$ (tn CO2)	Total net carbon stock change $\Delta\text{CPSPA}_{\text{t}}$ (tn CO2)
- 98,1	Non applicable	- 106.759,8	- 106.857,9
- 68,4	Non applicable	- 149.763,5	- 149.831,9
- 124,3	Non applicable	- 136.945,4	- 137.069,7
- 107,4	Non applicable	- 201.391,7	- 201.499,2
- 154,0	Non applicable	- 188.281,9	- 188.435,9
- 164,0	Non applicable	- 175.836,8	- 176.000,7
- 156,7	Non applicable	- 229.422,1	- 229.578,8
- 182,5	Non applicable	- 319.595,4	- 319.777,8
- 226,8	Non applicable	- 358.596,6	- 358.823,4
- 211,0	Non applicable	- 423.167,6	- 423.378,6

Leakage

The applicable methodology VM0015 requires that two sources of leakage be considered: carbon stock decreases and GHG emission increases from leakage prevention measures, and from activity displacement leakage.

Regarding leakage from prevention measures, they are excluded as proposed project do not consider measures that provoke decrease in carbon stocks or increase in GHG emissions.

Regarding leakage due to activity displacements, a displacement leakage factor (DLF) was estimated by FDN and others based on its acknowledge of the NPSL with a value of 5% and used in the ex ante estimation of leakage. This DLF is multiplied by the baseline carbon stock changes and the effectiveness index.

Emissions due to displaced forest fires are excluded. Hence, the ex ante estimated total leakage remains as follows:

Total ex ante GHG emissions from increased grazing activities	Total ex ante increase in GHG emissions from displaced forest fires	Total ex ante decrease in carbon stocks due to displaced deforestation	Total ex ante decrease in carbon stocks due to leakage prevention measures	Total net carbon stock change due to leakage	Total net carbon increase in emissions due to leakage
EgLKt	EADLKt	Δ CADLKt	Δ CLPMLKt	Δ CLKt	ELKt
Non applicable	Non applicable	- 4.383,7	Non applicable	- 4.383,7	Non applicable
Non applicable	Non applicable	- 6.149,4	Non applicable	- 6.149,4	Non applicable
Non applicable	Non applicable	- 5.622,8	Non applicable	- 5.622,8	Non applicable
Non applicable	Non applicable	- 8.268,9	Non applicable	- 8.268,9	Non applicable
Non applicable	Non applicable	- 7.730,3	Non applicable	- 7.730,3	Non applicable
Non applicable	Non applicable	- 7.219,0	Non applicable	- 7.219,0	Non applicable
Non applicable	Non applicable	- 9.419,0	Non applicable	- 9.419,0	Non applicable
Non applicable	Non applicable	- 13.121,4	Non applicable	- 13.121,4	Non applicable
Non applicable	Non applicable	- 14.722,4	Non applicable	- 14.722,4	Non applicable
Non applicable	Non applicable	- 17.373,2	Non applicable	- 17.373,2	Non applicable

Net GHG emissions reductions or removals

According to the methodology a significance assessment was carried out using the “Tool for testing significance of GHG emissions in AR CDM project activities”. Calculations were provided to AENOR and results evidence that only emissions from unplanned deforestation are higher than 5% of total emissions

in the project scenario, thus both illegally and legally harvested wood products result insignificant. Leakage represents a 4.75% but they were considered.

Therefore, once significance is assessed the ex ante estimation of total net GHG emissions reductions is calculated using the formulae.

$$\Delta REDD_t = (\Delta CBSLPA_t + EBBBSLPA_t) - (\Delta CPSPA_t + EBBPSPA_t) - (\Delta CLK_t + ELK_t)$$

AENOR checked and reproduced the net GHG emissions reductions calculations carefully for correctness according to the VM0015. The estimate of GHG credits eligible for issuance as VCUs accounted for the proper parameters and resulted in a correct estimate of total emissions reductions.

Where

$\Delta REDD_t$ = Ex ante estimated net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t ; tCO₂e .

$\Delta CBSLPA_t$ = Sum of baseline carbon stock changes in the project area at year t ; tCO₂e

$EBBBSLPA_t$ = Sum of baseline emissions from biomass burning in the project area at year t ; tCO₂e

$\Delta CPSPA_t$ = Sum of ex ante estimated actual carbon stock changes in the project area at year t ; tCO₂e

$EBBPSPA_t$ = Sum of (ex ante estimated) actual emissions from biomass burning in the project area at year t ; tCO₂e

ΔCLK_t = Sum of ex ante estimated leakage net carbon stock changes at year t ; tCO₂e

ELK_t = Sum of ex ante estimated leakage emissions at year t ; tCO₂e

$t = 1, 2, 3 \dots T$, a year of the proposed project crediting period; dimensionless

Results are the following for the first fixed baseline:

Years	Estimated baseline emissions or removals (tCO ₂ e)	Estimated project emissions or removals (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
1	194.832,8	107.158,0	4.383,7	83.291,0
2	273.305,7	150.318,1	6.149,4	116.838,0
3	249.903,1	137.446,7	5.622,8	106.833,0
4	367.506,3	202.128,4	8.268,9	157.108,0
5	343.567,9	188.962,4	7.730,3	146.875,0
6	320.843,7	176.464,0	7.219,0	137.160,0

7	418.623,6	230.243,0	9.419,0	178.961,0
8	583.171,7	320.744,5	13.121,4	249.305,0
9	654.326,8	359.879,7	14.722,4	279.724,0
10	772.143,2	424.678,8	17.373,2	330.091,0
TOTAL	4.178.224,9	2.298.023,7	94.010,06	1.786.186,0
Total for the 30 years	16.763.233,8	9.219.778,6	377.172,8	7.166.267,0

The number of Verified Carbon Units (VCUs) to be generated through the proposed AUD project activity at year t is calculated using the formulae

$$VCUt = \Delta REDDt - VBCt$$

$$VBCt = (\Delta CBSLPAt - \Delta CPSPAt) * RFt$$

Where:

$VCUt$ = Number of Verified Carbon Units that can be traded at time t ; t CO₂-e

$\Delta REDDt$ = *Ex ante* estimated net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t ; tCO₂-e ha⁻¹

$VBCt$ = Number of Buffer Credits deposited in the VCS Buffer at time t ; t CO₂-e

$\Delta CBSLPAt$ = Sum of baseline carbon stock changes in the project area at year t ; tCO₂e

$\Delta CPSPAt$ = Sum of *ex ante* estimated actual carbon stock changes in the project area at year t ; tCO₂-e ha⁻¹

RFt = Risk factor used to calculate VCS buffer credits; For the present project: 10%

$t = 1, 2, 3 \dots T$, a year of the proposed project crediting period; dimensionless

<i>Ex ante</i> net anthropogenic GHG emission reductions	<i>Ex ante</i> buffer credits	<i>Ex ante</i> VCUs tradable
83.291,0	8.767,0	74.524,0
116.838,0	12.298,0	104.540,0
106.833,0	11.245,0	95.588,0
157.108,0	16.537,0	140.571,0
146.875,0	15.460,0	131.415,0

137.160,0	14.437,0	122.723,0
178.961,0	18.838,0	160.123,0
249.305,0	26.242,0	223.063,0
279.724,0	29.444,0	250.280,0
330.091,0	34.746,0	295.345,0

AENOR assessed the calculations of baseline stocks and removals, project emissions, leakage, expected net anthropogenic GHG removals by sinks and uncertainties. AENOR can confirm the correctness of calculations as they were replicated by the audit team.

The values and estimates presented in the PD are considered reasonable based on the documentation reviewed, further references and the result of the interviews during the onsite visit.

Based on the information reviewed it can also be confirmed that the sources used are correctly quoted and interpreted in the PD. All assumptions and data indicated in the PD and all relevant sources were checked and confirmed. Detailed information on the verification of parameters used in the equations is presented in the protocol.

In essence, the methodology was correctly applied following the requirements. All values in the PD are considered reasonable in the context of the proposed VCS project activity. Data sources are quoted correctly. Hence, the calculation of baseline stocks and removals, project emissions, leakage and the expected net anthropogenic GHG removals by sinks are considered correct.

3.2.7 Methodology Deviations

Several deviations were used by PPs. These deviations are the same that ones recently validated for the Guatecarbon project, the first VCS project in the reference region, therefore, the evidences and assumptions are shared and the assessment carried out by AENOR to validate them in the Lacandón project is also the same. They are listed and assessed below:

1. The first deviation is related to the use of option II instead of option I for determining the boundaries of the leakage belt.

The PP and the other participants in the project can demonstrate with provided evidence that other deforestation agents and drivers than those related to economical issues have high relevance in the deforestation. These are linked to security issues (especially drug-trafficking) and new and illegal settlements. However, participants in the project have difficulties to calculate the exact proportion of deforestation attributed to other reasons than the opportunity cost, then, to estimate the 80%.

Due to this circumstance, PP has decided to choose the option II for determining the leakage belt. As a result of this approach, the leakage belt is larger than the leakage belt that would be likely appropriate for considering just the leakage attributable to project activities as many no surrounding or adjacent areas to the project area are included with poor governance and uncontrolled situation. By doing so, the emissions reductions generated due to the project implementation will be probably reduced due to leakage from project activities but also from other activities out of the project. This situation has already been confirmed by the study provided to AENOR and detailed in the technical annex. Thus, the approach is conservative and acceptable by AENOR.

Thus, AENOR deems that the deviation is appropriately described and justified in PD and technical annex, and that the project remains in compliance with the VCS rules. For the assessment, AENOR validated the approaches and assumptions described and their application in calculations. After all, AENOR accepts the deviation and deems it reasonable because it's a conservative approach and shall not negatively impact the conservativeness of the quantification of GHG emission reductions.

The leakage belt for the Lacandón project does not overlap with the Guatecarbon REDD project.

2. The second deviation is related to the application of tables 12, 13b and 13c of the VM0015.

The methodology requires that projects that utilize "Method 1 – Historical Land Use Change" in section 5.2 of VM0015 must assign the post-deforestation land-uses to the projected areas of annual deforestation in same proportions as those observed on lands deforested during the historical reference period in the reference region. In order to gather with more accurate the variability of each class during the time, the PP has implemented a measurement deviation to these tables.

PP calculated the proportion of each post deforestation land use considering the total amount of land use that transitioned from forest to non-forest. This way the percentages of post-deforestation are not underestimated because they are not based on a much larger and irrelevant area.

In order to do this, the project has considered a "Zone" as the stratum of forest in the project area. For post-deforestation purposes, PP used two stratum: Broadleaf forest low sub-humid and Broadleaf forest medium-high, i.e, they joined BMA-H and BMA-SH based on assumption described above. By doing so, the percentages are calculated only in reference to the sum of the area of the post-deforestation classes that occurred in each Zone during the historical reference period, and not against the full size of each Zone as suggested by VM0015 v1.1, i.e, the proportion of each post deforestation class is not calculated as a percentage of the total area of a "zone", the total size of a Zone is irrelevant, however, only matters in calculations the area transitioning from forest to non-forest matters in this calculation.

The technical annex describes in its section 5.2 the steps followed and justify the reasons to do it. AENOR has checked that assumptions described are faithfully used in calculations and really gathers in a more accurate and/or conservative way the situation of the project and shall not negatively impact the conservativeness of the quantification of GHG emission reductions. Hence, AENOR deems that the deviation is appropriately described and justified in PD and technical annex, and that the project remains in compliance with the VCS rules. AENOR accepts the deviation and deems it reasonable because it's a conservative approach.

3. The third deviation is related to the percentage allocation of historical post-deforestation uses. Due to there is not a long term assessment of carbon stocks in post deforestation classes in Guatemala, PP incorporated a measurement deviation to estimate the net carbon stocks.

The technical annex describes in section 5.2 these changes. The proportions of post deforestation lands that results at the end of the reference period are used but the following approaches are followed to estimate the carbon stocks:

- It is assumed for regeneration and African oil palm post deforestation classes that they do not lose carbon stocks over the project lifetime. This is a conservative approach.
- The initial proportions of the mixed cover class (cattle-pasture-agriculture, ANG) are adjusted with the proportions at the end of the historical reference period. This way allows considering the transitions from the initial ANG classes to other forest classes and applies these changes, on a percentage basis, to the proportion of areas of post-deforestation that exist at the end of the historical reference period. This is more accurate because is the realistic situation in the region but also conservative because avoid a overestimation of net emission reduction as this

action helps to account for the fact that land cleared to a non-forest status endures a degree of dynamism over time where, for example, a portion of a newly created pasture may eventually undergo natural regeneration to secondary forest, then, increasing carbon stocks of post-deforestation classes.

Thus, in opinion of AENOR these changes are reasonable and acceptable because they represent a conservative approach and more accurate regarding the situation in place.

Thus, AENOR considers that the deviation is appropriately described and justified in PD and technical annex, and that the project remains in compliance with the VCS rules. For the assessment, AENOR checked and reproduced calculations in order to assess the impact in GHG emissions, validated the approaches and assumptions described and their application in calculations. After all, AENOR accepts the deviation and deems it reasonable because it's a conservative approach and shall not negatively impact the conservativeness of the quantification of GHG emission reductions.

4. The fourth deviation is related to the use of data for the estimation of the average carbon stocks of each LU/LC class - assessing the existing data. Data to be collected and assessed must be less than 10 years according to the VM0015 v1.1, section 6.1.1 a) old. However, for the present project as explained in technical annex three of the nine data sets from forest inventories from across the reference region are older than 10 years old relative to the forest benchmark map.

PP provides the following set of justification to demonstrate that data used do not represent an overestimation of carbon stocks:

- a. Data older than 10 years are from the concessions in the MUZ. These data were subject to the quality control of the National Council of Protected Areas (CONAP), then, they are a data set from a reliable source and valuable to reach appropriate assessments.
- b. These data were taken at the beginning of the concession contracts which date back to 1994, 1996 and 1999, and prior to legal harvesting operations, then, they represent a reference point from which the effects of legal harvest can be compared, then, valuable for assessments and analysis. Nevertheless, the use of this data set does not represent a risk measurement bias in nearly half of the MUZ because it is not authorized for legal harvest as well as that the impact of harvest in estimation of carbon stocks is qualified as insignificance.
- c. Both, the MUZ and the MBR in general have been harvested for timber well before the establishment of the MBR. It is unlikely that measurements that were taken at the beginning of the concession contracts are biasing the estimates in favor of higher carbon stocks since the area has been subjected to timber harvesting well before the establishment of the MBR. Likewise, results of the significance test on the impact of illegal and legal harvesting in section 3.4.1 of technical annex suggest that these activities are less than half of 1% of emissions associated with the project activities. Thus, the effect of historical and current logging activities on the average carbon stock estimates is negligible.

These facts, i.e, the insignificance impact of legal and illegal harvest in the carbon stocks, that legal harvest do not apply in a large area of the MUZ and that logging activities already existed much before to the concessions allow thinking that data from 1994 to 2000 do not bias the estimation of carbon stocks.

- d. The use of older measurements likely result in slightly younger forests, which likely translate into slightly lower biomass estimates. This is a conservative approach.
- e. The range of data 1994-2010 allows capturing the effects of illegal or naturally over time degradation. Moreover these data enable the project to cover a wide geographic expanse,

thus permitting a more robust estimate of forest carbon by taking into account a wide range of spatial variability across the MUZ.

AENOR discussed all these justifications during the recently validation of the Guatecarbon with the forestry administration (CONAP) and the other forestry entities involved in the project (ACOFOP, WCS..), AENOR deems that the use of three data set older than 10 years old do not really impact on overestimation of carbon stocks. The most relevant change in forest management from period 1994-2000 to 2000-2010 are the legal harvests planned with the concessions model, but significance test evidence that they are negligible (both illegal and legal) and considering that logging activities already existed before concessions, then, in opinion of AENOR a range of 6 years more than 10 years allowed do not impact the estimation of carbon stocks. Therefore, AENOR considers that the deviation is appropriately described and justified in PD and technical annex, and that the project remains in compliance with the VCS rules. AENOR accepts the deviation because it shall not negatively impact the conservativeness of the quantification of GHG emission reductions.

5. The fifth deviation is related to the consideration of the long-lived wood products in the calculation of carbon stock change factor for initial forest classes.

According to the table 20.a of VM0015 for year 1, the carbon stock change factor associated with long-lived harvested wood products is listed as “zero”, however for the present project the PP has assumed that carbon stock change should be a positive non-zero number just in year 1 in order to account for the sequestration effect of producing a long lived wood product.

The VCS assumes that emissions from aboveground biomass of initial forest classes are released the year in which deforestation occurs. In the case of wood products, the VCS methodology assumes that long-lived fraction never be released into the atmosphere. However, Lacandon like Guatecarbon has conservatively assumed that all of the estimated harvested wood products that occur in the baseline scenario are long-lived products and that they sequester a forest carbon in the year the harvest occurs. This has been accounted for in the project with the value of 1.29 tn CO₂/ha, followed by zero in subsequent years.

AENOR determined that the deviation is appropriately described and justified in PD and technical annex, and that the project remains in compliance with the VCS rules. For the assessment, AENOR checked and reproduced calculations in order to assess the impact in GHG emissions, validated the approaches and assumptions described and their application in calculations. After all, AENOR accepts the deviation and deems it reasonable because it's a conservative approach and shall not negatively impact the conservativeness of the quantification of GHG emission reductions and reflect with more accurate the effects of carbon stocks from HWP. However, the significance test determines the insignificance from harvested wood products in the ex-ante estimation of the GHG emissions.

6. The sixth deviation affects to section 7.1.1 of the methodology and how the accounting for carbon stock changes due to planned activities was calculated. The VM0015 requires the use of maps to show the annual locations of the planned activities, i.e, a spatially assessment. Nevertheless, PP used a non-spatial model based on the approved total area for planned activities in the MUZ. This is a conservative approach because the areas designated for legal forest management activities in this model are larger than the areas that were actually authorized by CONAP during the same time periods and likely to be authorized in the future.

The management of planned activities is as follows: only a portion of the total area in each concession is authorized for forest management. Each authorized area is divided into cutting blocks according to the estimated rotation age calculated for the concessions. Historically the full cutting block has not been authorized for harvesting by CONAP. Currently no cutting blocks outside of the

current 5-year harvest plan have been authorized by CONAP, and were not available for modeling purposes.

The project used the full area that can potentially be harvested in each concession, divided by the length of the concession contract. This creates annual harvest areas that are larger than those that have been or could be authorized by CONAP. Therefore this deviation involves a conservative representation of planned legal harvests.

AENOR determined that the deviation is appropriately described and justified in PD and technical annex, and that the project remains in compliance with the VCS rules. For the assessment, AENOR checked and reproduced calculations in order to assess the impact in GHG emissions, validated the approaches and assumptions described and their application in calculations. After all, AENOR accepts the deviation and deems it reasonable because it's a conservative approach and shall not negatively impact the conservativeness of the quantification of GHG emission reductions.

7. The final deviation is related the application of the Displacement Leakage Factor (DLF) for ex-ante GHG estimates. In section 8.2, VM0015 v.1.1 requires that the DLF be applied to the "baseline carbon stock changes for the project area", however, the project proposes to multiply the DLF by the product of the baseline carbon stock changes and the project's effectiveness factor.

This is a reasonable approach because leakage must be ex ante estimated as a result of the project implementation and then the effectiveness index of the project directly affects to the calculation. By doing so, the accuracy of net GHG emissions increases.

3.2.8 Monitoring Plan

The monitoring plan presented in the PD complies with the requirement of the methodology.

The assessment team checked all parameters presented in the monitoring plan against the requirements of the methodology. For the monitoring of carbon stock changes the requirements and parameter list as per methodology and associated tools were followed.

The monitoring plan is included in the PD. The list of parameters to be monitored is the following:

ABSLK, ABSLLK_(i,t), ABSLLK_(t), ABSLPA, ABSLPA_(i,t), ABSLPA_(t), AUFPA_(icl,t), ΔCFCdPA, ΔCFCdPA_(t), ΔCPSPA, ΔCPSPA_(t), ΔCUCdPA, ΔCUCdPA_(t), ΔCUCiPA, ΔCUCiPA_(t), ΔCUFdPA, ΔCUFdPA_(t), ΔCUFiPA, ΔCUFiPA_(t), ΔREDD, ΔREDD_(t), RF_(t), VBC_(t), VCU_(t).

The monitoring plan is intended for the following main tasks to be monitored:

- Monitoring of actual carbon stock changes and GHG emissions within the project area
- Monitoring of Leakage
- Ex-post calculation of net anthropogenic GHG emissions reductions

For each task, the monitoring plan describes the following sections:

- Technical description of the monitoring task
- Data to be collected
- Overview of data to be collected

- QC/QA procedures
- Data archiving
- Organization and responsibilities.

Hence, in the opinion of the AENOR team all necessary parameters required by the selected approved methodology are contained in the monitoring plan. They are clearly described and the means of monitoring described in the plan comply with the requirements of the methodology. Tables in section 4 of the PD detail the different data variable to monitor along with the data unit, recording frequency, purpose of data, etc. Thus, the monitoring plan is in compliance with the applicable methodology and tools.

After the review of evidence provided by the PP, the interview and communications with PP, AENOR confirms that monitoring arrangements described in the monitoring plan are feasible within the project design and that the means considered for the implementation, including data management, quality and assurance control procedures, are sufficient to ensure that the GHG net anthropogenic removals achieved resulting from the proposed VCS project activity can be reported ex post and verified. Therefore, in opinion of the AENOR validation team the PP will be able to implement the monitoring plan.

3.3 Non-Permanence Risk Analysis

PP has elaborated VCS Non permanence Risk Report (Short form) for the validation process according to the AFOLU Non Permanence Risk Tool v.3.2 and combined with the Risk Report Calculation.

Below, it is explained the assessment of the non permanence risk rating determined by the project participant in the report dated on 20 May 2016 version 3 and issues raised to them in this regard.

Risk factor	Risk Rating	Findings and mitigation activities	Corrective Actions/Clarifications
Internal Risks			
Project Management: It is assessed using table 1 of the VCS AFOLU Risk Tool.	-4	a) Not applicable as it is not a forestation project. The project is a REDD project as checked with the design of the project. All forest management activities are with native species. Risk rating=0 is justified. b) Not applicable as the project has not previously issued any GHG credit. Risk rating=0 is justified. c) In accordance with the evidence provided, management team includes individuals with significant experience in sustainable forestry and VCS projects. This was checked during site visit.	CAR 8 For the “Project Management” indicator and criterion a) the species to be used shall be clarified because they are inconsistencies between the PD and risk report. Further information shall be provided to demonstrate the fulfilment with criterion f). These issues have been closed. Species to be used by the project were clearly defined and justifications were provided for criterion f)

		Risk rating=0 is justified. d) Manager team maintains a presence in the country. The PP has people in the NPSL. This was checked during site visit. This, rating =0 is justified. e) For the project a multidisciplinary team with high experience in REDD projects is working such a South Pole. Then, it is well justified the rating=-2. f) Adaptive management plan in place. The project has a management plan for VCS and CCBS that will enable the Project implementation team supervising the real impact of the project over the climate, community and biodiversity. The potential risks are cover in the PDD. The monitoring progress is cover by the Monitoring Plan and Monitoring report that will be issued every two years. Additional, to document lessons learned or correction that may be needed, FDN emits regular newsletters with the progress of the project; where the communities are informed. Then, rating = -2 is correct.	
Financial viability: It is assessed using table 2 of the VCS AFOLU Risk Tool.	0	a)-d).According to the project cash flow carried out by the PP, the breakeven point is reached between 4 and 7 years. Cash flow was provided to AENOR which can confirm this matter. Thus, the rating chosen=1 is correct. e)- h) The project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven. Thus, the rating chosen=1 is correct. i) Project has available at least 50% of total cash out before project reaches the breakeven. Then rating=-2 is correct.	CAR 8 For the “Financial viability” indicator explanations shall be provided explanations about criterion used and evidence to support them. The financial model was provided to support ratios given.
Opportunity Cost: It is assessed using table 3 of the VCS AFOLU Risk Tool.	-4 (total may be less than zero)	a)-f) In the case of the project the case d) is applied. The legal activities in the baseline are subsistence-driven and there are net positive community impacts, then rating 0 is correct. g) Primary PP is and NGO, then rating - 2 is correct.	CAR 8 For the “opportunity cost” indicator evidence and explanations shall be provided for the criteria chosen. Likewise, the clarification from VCS must be used. These used were corrected.

		h) Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period. The project is managed through the "Governance Committee of the Project". The communities participate in the decision making through representation in the Governance committee and collaborate in the implementation of project activities in joint with FDN. The Governance committee will be operational the entire duration of the project (30 years). Then rating -2 is correct. i) No mitigation measure, then rating 0 is correct.	
Project Longevity: It is assessed using table 4 of the VCS AFOLU Risk Tool.	0	a)-b) The Mayan Biosphere Reserve is a protected area by Decree 5-90 and only management practices that maintain the ecological function of the reserve are permitted. Thus, the decree is an enforceable requirement in perpetuity, then rating 0 is correct as the requirement covers at least 100 years from the project start date.	No Corrective Actions Requests or Clarifications
Total internal Risk=0			
External Risks			
Land Tenure and resources access/impact: It shall be assessed using table 6 of the Risk Tool.	0 (total may not be less than zero)	a)-b) The project first instance corresponds to the total forest area of Unión Maya Itzá, La Técnica Agropecuaria and La Lucha communities, all with legal land tenure; and the private properties of Fundación Defensores de la Naturaleza, Naranjitos and Centro Campesino areas, also with legal land tenure, then, rating 0 is correct. c)-d) There are not disputes, then rating 0 is correct. f) The project area is protected by Decree 5-90 to protect the natural ecosystem and continue the management practices that protect them during the length of the crediting period. then rating -2 is correct. g) Not applicable. Then rating =0 is correct.	No Corrective Actions Requests or Clarifications

Community engagement: It shall be assessed using table 7 of the Risk Tool.	-5	a) Local Stakeholder Consultations have been done in the entire project area; locals have been informed about project details and the Free, Prior and Informed Consent was performed. All communities and actors directly involved and affected by the project, have been consulted and records of the consultation have been provided to AENOR. Then rating=0 is correct. b) Communities and actors indirectly involved and affected by the project were effectively invited to participate in the social consultation as UNAC “El Retalteco”, Poza Azul, San Juan Villa Nueva and Villa Hermosa Communities. Records were provided to AENOR. Then rating=0 is correct. c) Mitigation: The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area. Then the rating=-5 is correct.	CAR 8 For the “Community engagement” information related to consultation process for stakeholders out the project area shall be provided. This information has been provided.
Political Risks: It shall be assessed using table 8 of the Risk Tool.	2	a)-e) The governance score calculated using “World Bank Institute’s Worldwide Governance Indicators (WGI)”, average for the years 2010 – 2014 is -0.60 Then, rating 4 is correct. AENOR verified the value and reliability of source. f) Mitigation: Country is implementing REDD+ Readiness or other activities as evidence provided demonstrated. Then, rating -2 is correct.	CAR 8 The political risk has been calculated for the last 8 years. This calculation has been corrected using the last five years available.
Total external risks=0 (negative score is not allowed)			

Natural Risks -			
Fire Risk: It shall be assessed using table 10 of the Risk Tool.		Significance (S) for this risk is “minor” According to data by CONAP with a likelihood lower than 10 years, then,	CAR 8 For the natural risk “fire” evidence shall be provided for the significance

	LS*M=2,5	LS=5. Prevention measures are implemented in way of workshops. They have been developed in San Juan Villa Nueva, Poza Azul, Pital, Guayacan, Villa Hermosa, Asentamiento La Revancha, UMI, La Lucha, Nueva Jerusalem II communities and in the Military Detachment. The themes were Forest fire prevention / Awareness and community organization for the prevention of forest fires / Basic Techniques of forest fire control for primary student / Community plan for forest fire prevention / Early Warning System FOR Forest Fire (SATIF). Communities have been trained in forest fire management and how to maintain firebreaks at both a community and institutional level. Maintenance of firebreaks is conducted once per year in the fire season, between February and May. Then M=0.5.	criterion. Likewise, an explanation/report should be provided to explain the parameter used "density" with carbon losses. On the other hand, the assessment period for fires in the region shall be clarified. Evidence about mitigation measures to evaluation the fire risk shall be provided. Evidence were provided. Report to assess the density parameter sent to AENOR. To define the assessment period the PP used a conservative criterion as fires in 2003 were catalogue as severe.
Pest and disease outbreaks: It shall be assessed using table 10 of the Risk tool.	LS*M= 0	Significance and Likelihood (LS): For the present project a value of "no loss" has been reported due to the project area is natural forest, then, naturally resilient to extensive pest outbreaks. Likewise, the project is a REDD project, then, commercial forest plantation are not allowed, then, there is not risk of diseases from these activities. The likelihood has been selected to be "once every 100 years", then LS=0. Mitigation (M) measures are not claimed, then rating 1 is correct.	CAR 8 Evidence shall be provided to support values given. Evidence have been provided and detailed in the risk report.
Extreme weather: It shall be assessed using table 10 of the Risk tool.	LS*M=2	Significance and Likelihood (LS). Significance is rated as "insignificant or transient" based on the Tropical Depression in 2011, an environmental assessment was developed, which considering as variables solid waste, mangroves affected biophysical impacts of climate change on forest and vegetated land (biomass), and loss of non-agricultural land. These variables were considered insignificant due to Petén present a low susceptibility to landslides caused by rains. The likelihood has been qualified as less than 10 years. No Mitigation (M) measures were addressed in this point, then, rating one is correct.	No Corrective Actions Requests or Clarifications

Geological risks: It shall be assessed using table 10 of the Risk Tool.	LS*M=0	Significant and Likelihood (LS). According to the studies by the Coordination Centre for the prevention of Natural disasters in Central America (CEPRENEC) and the United Nation Office to reduce risks from disasters (UNIDSR) the northern lowlands are not a significant risk for major earthquakes and biomass and, likelihood is once 100 years, then LS=0 is correct. No Mitigation (M) measures were addressed, then, rating M=1 is correct.	No Corrective Actions Requests or Clarifications
Total Natural Risks=4,5			
OVERALL RISK RATING: It shall be calculated according to table 11 of the Risk Tool. OVERALL RISK RATING=0+0+4,5=4,5. Then, a minimum value of 10% has been applied.			

AENOR has checked that information provided in the Non Permanence Risk Report is consistent with documents of support provided. AENOR deems that information provided is reliable and appropriate, thus, the overall risk rating is credible and realistic.

3.4 Environmental Impact

The environmental implications from the project are closely align with the REDD program which searches to achieve net environmental benefits by conserving forest and preventing degradation. A variety of ecosystem service benefits are strengthened by the activities of the project, but also the project is searching the registration under the Climate, Community, and Biodiversity Alliance (CCB) Standards. The assessment carried out by AENOR of the biodiversity aspects of CCB confirmed that the project will substantially improve the environmental status of the project area over the baseline scenario.

The forest management activities that result in modifications of natural ecosystems establish mitigation to avoid any negative impact on environment or communities. Moreover, these mitigation measures will be monitored.

3.5 Comments by Stakeholders

The veracity of the local stakeholder consultation was verified during the on site visit. AENOR checked evidence of the different meetings carried out for information about the project in the project boundary. Evidence confirms that information in PD is credible and consistent.

As commented above as the PD is also searching the registration under the Climate, Community, and Biodiversity Standard, the whole processes and plans for the consultation with stakeholders is well detailed in the PDD.

The stakeholder process consisted in inform, train and achieve the Free, Prior and Informed Consent (FPIC) of the 3 communities participating in the REDD+ project with sufficient time and transparency, this way the community could determine, without any pressure or coercion, if they wished to participate or not.

The workshops started in 2013 and were constant with cooperatives exposing general concepts of climate change, CO₂, deforestation and basic concepts of REDD+. These meetings planning by FDN

explained the objectives, possible positive and negative impacts expected from the project, benefits and implications that the project could have for their communities and quality of life. Print media were also used to inform local people, performing an illustrated summary of the Project Design Document and a comic book on climate change which was translated into Q'eqchi language. In addition, periodic newsletter were issued and distributed to communities about the process of the project. Registers were provided to AENOR.

Definitively, PP and partners have involved in the consultation process to all people affected by the project in order to get a complete set of inputs from project area as well as to inform them about the project. Project proponents have a continue communication with the local Communities to implement and monitor goals of the project. Likewise, AENOR during site visit held numerous interviews with a broad range of stakeholders and confirmed the assertions made within the PD.

4 VALIDATION CONCLUSION

AENOR has verified that the project is in compliance with the Verified Carbon Standard version 3.5 and the AFOLU requirements v.3.4 without qualifications or limitations. The project is located in Guatemala and covers an area of 45288,81 hectares of forest. The project participants, i.e, Fundación Defensores de la Naturaleza, Unión Maya Itza Cooperative, La Lucha Cooperative and La Técnica Agropecuaria Cooperative have the control over the whole project area and the rights of use, at validation.

AENOR has performed the validation of this REDD project in Guatemala on the basis of all issues and criteria of VCS. The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and Monitoring Plans; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion. In the course of the validation process corrective actions and clarifications were raised; all have been successfully closed as explained in the validation protocol annexed to this report.

The Project participant used the VT0001 Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities," Version 3.0 to demonstrate the additionality of the Project. In line with this tool, the PDD provides a barrier analysis to determine that the project activity itself is not the baseline scenario. The methodology VCS VM0015, version 1.1 was applied to determine the GHG net anthropogenic removals by sinks.

The barrier analysis demonstrates that the proposed project activity is not a likely baseline scenario. GHG net anthropogenic removals by sinks attributable to the project are hence additional to any that would occur in the absence of the project activity.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; and the subsequent background investigation, follow-up interviews and review of comments by parties have provided AENOR with sufficient evidence to validate the fulfillment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all criteria of the VCS Standard v.3.5 and AFOLU requirements v.3.4.
- The project additionality is sufficiently justified in the PD.
- The Monitoring Plan is transparent and adequate.
- The analysis of the baseline emission, project emissions and leakage has been carried out in a transparent and conservative manner, so that the calculated yearly average Verified Carbon Units after discounting the risk rating, resulting in a value of 159,817.2 tn CO₂ is most likely to be achieved within the 10 years first baseline period.

Date: 8 June 2016

Authorized person

Luis Robles Olmos



Lead auditor

José Luis Fuentes



5 APPENDIX 1: LIST OF PROVIDED EVIDENCE

1. Final version of the P.D
2. First version of the P.D.
3. Methodology VM0015 v 1.1
4. VCS Standard v.3.5
5. AFOLU requirements v.3.4
6. KML files and GIS information
7. Cooperation agreement between FDN and La Lucha, La Técnica and Unión Maya Itza.
8. Cooperation agreement between FDN and CONAP
9. Package of spreadsheet calculations
10. Climate information by CONAP 2011 report
11. Map of hydrologic connectivity of Guatemala produced by the seismological, volcanological, meteorological, and hydrological institute of Guatemala (INSIVUMEH)
12. Cooperative agreement between the Ministry of Environment and Natural Resources (MARN), Ministry of Agriculture, Cattle, and Food (MAGA), the National Institute of Forests (INAB), and the National Council of Protected Areas (CONAP).
13. Free, Prior and Inform Consent (FPIC)
14. Laws and regulations in section 1.11 of the P.D
15. Legal land tenure of FDN over Los Naranjitos and Centro Campesino and La Lucha, UMI and La Técnica.

16. Master Plan for the Maya Biosphere Reserve.
17. Technical annex to the PD.
18. Technical report of the forest cover map in Guatemala 2010 and dynamic of forest cover 2006-2010. http://www.sifgua.org.gt/Documentos/Informes/Cobertura/2010/INFORME/Memoria%20Tecnica%20Completa.pdf
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20. Governance study of Maya Biosphere Reserve by CONAP 2015.
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6 APPENDIX 2 : VALIDATION PROTOCOL

VCS VALIDATION PROTOCOL

PROJECT:

Lacandón-Forest for Life REDD+ Project

PROJECT PROPONENTs:

Fundación Defensores de la Naturaleza

Unión Maya Itza Cooperative

La Lucha Cooperative

La Técnica Agropecuaria Cooperative

Validation Type	
☒ VCS Validation of a Project Activity	
Validation Team: José Luis Fuentes Pérez: Chief Validator Manuel García Rosell: Validator	
Version of this Validation Protocol: 02	Date: 2016-06-08

CHECKLIST TOPIC / QUESTION	MoV/Ref.*	COMMENTS	Draft Conclusion	Final Conclusion
A. GENERAL DESCRIPTION OF PROJECT ACTIVITY				
A.1. Title of the project activity				
A.1.1 Does the used project title clearly enables to identify the unique VCS activity? Is it consistent in all section of the VCS-PD and in all documents?	DR I	The project title clearly enables to identify the VCS activity. This name is consistent throughout the PD.	OK	OK
A.1.2 Are there any indication concerning the revision number and the date of the revision?	DR	Yes, the P.D details the revision number and date of revision	OK	OK
A.1.3 Is this consistent with the time line of the project's history?	DR	Yes, it is consistent with the timeline of the project	OK	OK
A.2. Description of the project activity				
A.2.1 Is the description delivering a transparent overview of the project activities?	DR	The PD provides a clear description of the project.	OK	OK
A.2.2 Is the sectoral scope and the project type clearly stated?	DR	Yes, the sectoral scope 14 "Agriculture, Forestry and Land Use" is clearly indicated in the VCS-PD. The project is REDD and grouped project.	OK	OK
A.2.3 Is the information required for the indication of project proponent correctly presented?	DR	The information about PPs is correct.	OK	OK
A.2.4 Are there other entities other than the project proponent involve in the project?	DR	Yes, there are other entities involved in the project, they are listed in P.D: Oro Verde and South Pole and FDN has an alliance with CONAP/CEMEC.	OK	OK

A.2.5 Is all information on proponent / Parties provided in consistency with details provided by further chapters of the VCS-PD?	DR	Yes, the information is consistent in the entire VCS-PD.	OK	OK
A.2.6 Are the project's starting date clearly defined and reasonable?	DR I	CL1 It shall be provided evidence about the project start date. The project start date is February 1, 2012, the date on which began the project activities for avoiding deforestation, concretely; activities with communities to plan and implement the project began on that date. In this regard, the PP has provided a confirmation letter from La Lucha Cooperative to FDN confirming its participation on the project and assuming the objectives of the projects.	CL1	OK
A.2.7 Is the assumed crediting time clearly defined and reasonable according to the VCS requirements?	DR I	The crediting period runs from February 1 2012 to January 31 2042.	OK	OK
A.2.8 What is the scale of the project? What are the estimated emissions annual GHG emission reductions or removals for the crediting period?.	DR	The project is scaled as project. The estimated average annual emission reductions over the crediting period are 238,875.56 tn CO2e.	OK	OK
A.2.9 Is the form required for the indication of projected emission reductions correctly applied?	DR	The form required is correctly applied.	OK	OK
A.2.10 Does the technical design of the project activity reflect current good practices? How much is applied technology is environmental safe?	DR I	The technical design of the project reflects good practices.	OK	OK

A.2.11 Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	DR	The information provided on the location of the project activity allows for a clear identification of the site.	OK	OK
A.2.12 Describe the conditions prior to the project initiation. Demonstrate that the project has not been implemented to generate GHGs emissions for the purpose of their subsequent reduction, removal or destruction.	DR I	The PD describes the conditions prior to the project initiation. The project has not been implemented to generate GHGs emissions for the purpose of their subsequent reduction, removal or destruction.	OK	OK
A.2.13 Compliance with laws, statutes and other regulatory frameworks	DR I	The PD states that project fulfils with regulations in Guatemala. This issue was validated during site visit.	OK	OK
A.3. Ownership and other programs				
A.3.1 Right of use?	DR I	PPs have the right of use.	OK	OK
A.3.2 Will the generated ERs be used for compliance with an emissions trading program, or to meet the binding limits on GHG emissions?	DR	GHG removals generated by the project will not be used for compliance with binding limits to GHG emissions since such limits are not enforced in Guatemala, and there is no emissions trading program in place in the country.	OK	OK
A.3.3 Is the project registered under any other GHG-program?	DR I	The Lacandón project does not participate in any other GHG program.	OK	OK
A.3.4 Does the project intends to generate any other form of GHG-related environmental credit? (e.g. renewable energy certificates)	DR	The Lacandón project will only generate credits from the storage of carbon in forest pools, and these are claimed only under the VCS program.	OK	OK
A.3.5 Has the proposed project been rejected by any other GHG program?	DR	The Lacandón project has never applied neither been rejected by other GHG program.	OK	OK

<i>A.3.6 Additional information relevant to the project</i>				
A.3.6.1 In case of grouped projects, are there clear eligibility criteria for potential new participants (VCS term: Project In-stances)?	DR	CAR 1 The project document does not describe in appropriate way the eligibility criteria for new instances. In addition, the grouped project area shall be provided in a file KMZ along with the area of first instances. This CAR is closed. The PPs have strengthened the PD with more eligibility criteria. The new list provided considers all requirements for grouped projects. In addition, a KMZ has been provided with the boundaries of the grouped project area that is the National Park Sierra de Lacandon.	CAR 1	OK
A.3.6.2 Is the leakage management properly described?	DR	P.D gathers this information which is also further explains in other documents such as the methodological annex provided.	OK	OK
A.3.6.3 Has commercially sensitive information been excluded from the VCS-PD? Ex-plain to which items this information refers to.	DR	No sensitive information has been excluded from P.D	OK	OK
A.3.6.4 Is there any further information available regarding the project?	DR	The project is also searching the registration under CCB scheme and it is a grouped project.	OK	OK
B. BASELINE AND MONITORING METHODOLOGY				
B.1. Title and reference of the approved baseline and monitoring methodology				
B.1.1. Are reference number, version number, and title of the approved baseline and monitoring methodology clearly indicated?	DR I	The project shall use the latest version of the VCS methodology VM0015 version 1.1. Methodology for avoided unplanned deforestation as well as the latest version of the document "AFOLU	OK	OK

		Requirements". Used tools must be provided in the P.D.		
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	DR	The version applied is the most recent one.	OK	OK
B.1.3 If the baseline and monitoring methodology, applied in the original VCS-PD, was withdrawn after the registration of the VCS project activity and replaced by a consolidated methodology: Is the latest approved version of the respective consolidated methodology used?	DR	N/A.	N/A	N/A
B.1.4 In the case the registered VER project activity does not meet the applicability criteria of the options provided in B.1.2. or B.1.3., due to their revision or due to the update of the baseline: Have the project participants either selected another applicable approved methodology or request, through the DOE, a deviation from an approved methodology for the purpose of renewal of the crediting period?	DR	N/A	N/A	N/A
B.1.5 Does the methodology refer to the tools with its latest approved versions?	DR	The PD details the methodology and associated tools	OK	OK
B.2. Applicability of the selected methodology to the project activity				
B.2.1. Is the applied methodology considered the most appropriate one?	DR	Yes, the applied methodology is the most appropriate to the project.	OK	OK
Fill in the required amount of sub checklists for applicability criteria as given by the methodology applied and comment at least every line				

answered with “No”												
B.2.2. Are the applicability conditions of the methodology complied by the project?.	DR I	<table><tr><th>Applicability checklist</th><th>Yes/No</th></tr><tr><td>Criterion discussed in the VCS-PD?</td><td>Yes</td></tr><tr><td>Evidence provided?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> CL 2 It shall be provided in the PD or annex further justifications to demonstrate the applicability of the project with applied methodology. This clarification is closed. PPs have provided more explanations in the documents to demonstrate the methodology.	Applicability checklist	Yes/No	Criterion discussed in the VCS-PD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	CL2	OK
Applicability checklist	Yes/No											
Criterion discussed in the VCS-PD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											
B.3. Description of the Project Boundary												
B.3.1 Are all the sources and gases included in the project boundary of the project activity (baseline scenario, project scenario and leakage) in accordance with the applied methodology?	DR	CAR 2 The pool “AGB non tree” has not been included in the project boundary. Likewise, it has been detected inconsistencies between the PD and annex related to the pool “harvested wood product”. This car is closed. Finally, the AGB non tree pool is included and considered in the calculation and the harvested wood product was ruled out because is insignificant.	CAR 2	OK								
B.3.2. Are the inclusion or exclusion of the sources of gases correctly justified?	DR	Technical annex includes in section 1.4 a justification of gases included or excluded in the project.	OK	OK								

B.3.3. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the VCS-PD?	DR	CAR 3 The criteria to determine the spatial boundaries of the Reference Region have not been assessed appropriately. It is not clear whether the thresholds for landscape configuration and ecological conditions are complied and some data in tables used for these conditions are inconsistent. On the other hand, the spatial boundary of the project area is not clearly defined in the P.D. Information about communities included in the project and the areas of them considered for project activities is not consistent throughout the document. This CAR is closed, three out of four criteria (forest, elevation and slope) have been reached by the project. Data have been corrected, they are consistent for the assessment of the four criteria. The project area has been clarified and the area updated based on land tenure documents and forest areas of the communities. The final project area is 45288.81 ha compared with the initial 127,412.6 ha.	CAR 3	OK
B.4. Description of the baseline scenario identification				
B.4.1. Is the baseline scenario clearly described?	DR	The baseline scenario has been determined following the steps of the applicable methodology. The P.D and with more detail, the methodological annex show the process to determine it. As most relevant event in the baseline determination, the reference region was divided in three strata based on agents, drivers and the causes of deforestation. To estimate the deforestation rate, the approach b) of the methodology was used for the project area strata	OK	OK

		and the approach a) for the others two. Deforestation risk maps have been created and provided to AENOR using different “factor maps” for every strata and the “Figure of Merit” was used for the model prediction in a statistical manner.		
B.4.2. Have there been other alternative scenarios considered? Is it justified the selected scenario as the most likely one?	DR	Other alternatives were selected and the most likely selected scenario was justified.	OK	OK
B.4.3. Does the VCS-PD follow the steps to determine the baseline scenario required by the methodology?	DR	The baseline scenario has been determined following the steps of the applicable methodology.	OK	OK
B.4.4. Has the baseline scenario been determined using conservative assumptions where possible?	DR	Appropriate assumptions were used to determine the baseline scenario.	OK	OK
B.4.5 If alternatives are excluded: a.- Is sufficient evidence/ justification provided to support every exclusion of alternatives? Is it reasonable? b.- Is it shown that at least one credible and feasible alternative does not face a barrier? Is this reasonable?	DR	The analysis of alternatives is well explained in the PD and technical annex. Reasonable justifications are provided and the scenario classified as current situation does not face any barrier.	OK	N/A
B.4.7 Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	DR	Baseline scenario identified is compatible with information in P.D and evidence provided.	OK	N/A
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered VCS project activity (assessment and demonstration of additionality):				

B.5.1 Is the project additionality assessed according to the applicable methodology? Detail the Tool used to demonstrate the Additionality of the project activity.	DR	To determine the additionality the tool VT0001 Tool for the Demonstration and Assessment of the Additionality in VCS AFOLU projects v.3 was used. This is correct according to the applicable methodology.	OK	OK
B.5.2 Are alternative scenarios defined that provide outputs or services comparable with the proposed VER project activity?	DR	Alternative scenarios have been identified as per applicable tool.	N/A	N/A
B.5.3 Can be the list of alternatives considered to be complete, why? Is the scenario project activity without being registered as VER project included?	DR	The list of alternative is complete. Project activity without being registered is included as alternative.	OK	OK
B.5.4 In case several different facilities, technologies, outputs or services are present in the project, are separately alternative scenarios for each of them included? Have realistic combinations been considered as project scenario?	DR	Not applicable.	N/A	N/A
B.5.5 Describe why the alternative scenarios are credible and realistic (technology, practices, services, status of implementation)?	DR	Three scenarios were identified in the P.D and more detailed in the methodological annex. The implemented project without being registered, the current situation which is the increasing of deforestation in the project area and a scenario similar to the proposed project but resulting from legal requirements or activities observed.	OK	N/A
B.5.6 Do the alternative scenarios comply with mandatory laws and regulations?	DR	Yes, the three alternatives fulfils with the laws except some activities of scenario 1.	OK	OK

B.5.7 If a scenario does not comply with the mandatory laws and regulations, is it clearly demonstrated that the law and/or regulation is systematically not enforced in the country or reference region?	DR	Yes, AENOR could verify during the site visit the systematic lack of enforcement of laws in the region.	OK	OK
B.5.8 In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately?	DR	The additionality of the project has been determined by barrier analysis.	OK	OK
B.5.9 In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than VERs income? a. Are the assumptions for all alternatives compared consistent (including discount rates if applicable)?	DR I	According to information provided in P.D and further developed in the methodological annex, the simple cost analysis has been used for additionality purposes. CL 3 If simple cost analysis is used, the PP must demonstrate that the project activity produces no financial benefits other than VCS related incomes as additional tool requires. This clarification is closed, the additionality is finally demonstrated by barrier analysis.	CL 3	OK
B.5.10 In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)? a. Are the assumptions for all alternatives compared consistent (including discount rates if applicable)?	DR	N/A	OK	N/A
B.5.11 In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost	DR	N/A	N/A	N/A

benefit ratio, or (levelized) unit cost)? a. If an IRR indicator is used, is the choice of benchmark appropriate to the type of IRR calculated? b. Is the choice of benchmark or discount rate justified with supporting evidence for its appropriateness?				
B.5.12 How is it demonstrated that the financial/economic analysis (benchmark) represents standard returns in the market, considers the specific risk of the project type, but is not linked to the subjective profitability expectation or risk profile of a particular project developer (Option II and Option III)?	DR	N/A	OK	N/A
B.5.13 In case of company internal benchmark, is it clearly demonstrate that there is only one potential project developer and that the benchmark has been consistently used in the past (Option II and Option III)?	DR	N/A	OK	N/A
B.5.14 In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives (Option II) and the project activity (Option III)?	DR	N/A	OK	N/A
B.5.15 In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	DR	N/A	OK	N/A

B.5.16 Are all assumptions and input data clearly presented, documented, evidenced and consistent with the rest of the VCS-PD?	DR	N/A	OK	N/A
B.5.17 Does the sensitivity analysis show that the conclusion of financial/economical attractiveness is robust to reasonable variations in the critical assumptions?	DR	N/A	OK	N/A
B.5.18 How is demonstrated that this variations have been adequately taken (range is adequate)?	DR	N/A	OK	N/A
B.5.19 In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the implementation of the proposed project and the different alternatives to occur?	DR	N/A.	OK	N/A
B.5.20 Is transparent and documented evidence provided on the existence and significance of these barriers?	DR	N/A	OK	N/A
B.5.21 Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	DR	N/A	OK	N/A
B.5.22 How is confirmed that the VER does alleviate the barriers presented?	DR	N/A	OK	N/A
B.5.23 Has common practice analysis been undertaken?	DR I	CL 4 The assessment of the common practice analysis shall be performed according to the	CL 4	OK

		steps of the applicable tool. This clarification is closed. The additionality of the project was demonstrated by barrier analysis, accordingly the common practice analysis was also updated and reassessed to evidence that proposed project activity is not common practice in the country.		
B.5.24 Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the VCS-PD?	DR	There are not other similar activities in the country except the Guatecarbon project that is registered under VCS.	OK	OK
B.5.25 If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the VER component?	DR	No similar activities are occurring in the country	OK	OK
B.5.26 Overall, is the proposed VCS project activity considered common practice?	DR	No, the proposed project is not common practice.	OK	OK
B.5.27 Is it demonstrated/justified that the project activity is not a likely baseline scenario?	DR	It is demonstrated that the project is not the baseline scenario.	OK	OK
B.6. Emissions reductions				
<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	DR	The procedures to calculate the emission reductions are provided in the P.D and the methodological annex. They are in compliance with the applicable methodology.	OK	OK

B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	DR	CAR 4 Regarding emissions calculations and procedures used to calculate them the following issue shall be clarified according to the applicable version of the methodology: The PD shall be strengthened with further explanations related to options of the methodology applied, assumptions planned, formulas applied, etc. The content must allow following the methodology and how it has been considered. This CAR 4 is closed as all issues raised were corrected. The PD has been strengthened. The main criteria, options, formulae and assumptions used have been detailed.	CAR 4	OK
B.6.1.3. Are the formulae required for the determination of emissions reductions correctly presented and used? (<i>Open excel, trazability of data, etc</i>)	DR	Formulae required by methodology and tools are correctly presented. AENOR reproduced the calculation to achieve the same results.	OK	OK
B.6.1.4 Are all the data and assumptions listed in the VCS-PD and are appropriate and calculations result in a conservative estimate of emission reductions?	DR	All data and assumptions are listed in P.D. They are appropriate and consistent with data sources and they result in a conservative estimation of removals.	OK	OK
B.6.2. Data and parameters that are available at validation				
B.6.2.1. Is the list of parameters presented in VCS-PD considered to be complete with regard to the requirements of the applied methodology? Is all the information required for each parameter included?	DR	The list of parameters presented in VCS-PD is considered to be complete with regard to the requirements of the applied methodology. CAR 5 All the information required for each	CAR 5	OK

		parameter is not included due to template used for each parameter is not correct. This car is closed, the PPs updated the template used for the parameters at validation.		
B.6.2.2. Are all the data derived from official data sources or replicable records and have been correctly quoted?	DR	Yes, all the data is derived from official data sources or replicable records and is correctly quoted.	OK	OK
B.6.2.3. For parameter: a. Title in line with Methodology? b. Data unit correctly expressed? c. Appropriate description? d. Source clearly referenced? (and appropriate?) e. Correct value provided? f. Has this value been verified? g. Choice of data correctly justified? h. Measurement method correctly described?	DR	For all parameters in the P.D the information provided is in line with the methodology, it is correctly expressed and described, sources are referenced and correct values provided, verified and justified and measurement method described if applicable.	OK	OK
B.6.2.4. Will the data and parameters result in a conservative estimate of emissions reductions?	DR	Data and parameters result in a conservative estimation of emission reduction as AENOR has checked.	OK	OK
B.6.3 Calculation of GHG Emission Reductions – Baseline Emissions <i>It is assessed whether the baseline emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>				
B.6.3.1 Are the calculations documented according to the approved methodology and in	DR	AENOR reproduced the calculations and cross-checked with evidence and methodology and tools requirements. After	CAR 6	OK

a complete and transparent manner?		this review the following issues were detected: CAR 6 • Some methodology tables included in PD v1 do not match with spreadsheet calculation. • Table 15 and 16 of the PDD v1 do not match with data in excel SIG VHR. • Cells in spreadsheet calculation must show the algorithm used. • It shall be provided evidence in order to check the deforested area during last 15 years used in table “DEG LEGAL LB+PROY”. In this regard, it shall be clarified why same data of deforestation are used in baseline scenario and project scenario. This car is closed. Tables in PD and spreadsheet calculations have been corrected and they are consistent. In addition, the spreadsheet calculations were modified to include the algorithms. Evidence were provided to support data of deforested area in last 15 years and different data were used for the project and baseline scenario.		
B.6.3.2. Have conservative assumptions been used when calculating the baseline emissions?	DR	Conservative assumptions were used in calculations.	OK	OK
B.6.3.3 Are uncertainties in the baseline emission estimates properly addressed?	DR	Uncertainties have been properly addressed.	OK	OK
B.6.3.4. Is additional background information on baseline data provided in Annex of the	DR	No additional information is provided in annex of the P.D However, a methodological annex has been	OK	OK

VCS-PD? Is this information consistent with data presented by other sections of the VCS-PD?		developed by PPs to develop in detail the steps of the methodology.		
B.6.4 Calculation of GHG Emission Reductions – Project Emissions <i>It is assessed whether the project emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>				
B.6.4.1 Are the calculations documented according to the approved methodology and in a complete and transparent manner?	DR	Calculations have been documented in an appropriate way allowing its reproduction and traceability with the methodology and assumptions in the technical annex.	OK	OK
B.6.4.2. Have conservative assumptions been used when calculating the project emissions?	DR	Project emissions were calculated based on documented evidence provided.	OK	OK
B.6.4.3 Are uncertainties in the project emission estimates properly addressed?	DR	Uncertainties were appropriately estimated in the project emissions calculations.	OK	OK
B.6.5. Calculation of GHG Emission Reductions – Leakage <i>It is assessed whether leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>				
B.6.5.1 Are the leakage calculations documented according to the approved methodology and in a complete and transparent manner?	DR	The final PD documents in an appropriate manner the leakage calculations.	OK	OK
B.6.5.2. Have conservative assumptions been used when calculating the leakage emissions?	DR	Leakage has been assessed according to the documented evidence provided.	OK	OK
B.6.5.3. Are uncertainties in the leakage emission estimates properly addressed?	DR	Uncertainties were estimated appropriately in calculations.	OK	OK

<i>B.6.6. Ex-ante calculation of emission reductions</i>				
B.6.6.1. Are the GHG calculations documented in a complete and transparent manner? Are all the calculations correct?	DR	Once, all issues raised to the PP were corrected and clarified and new calculations and evidence provided, AENOR considers that GHG calculations are documented in a complete and transparent manner.	OK	OK
B.6.6.2. Is the data provided in this section consistent with data as presented in other chapters of the VCS-PD?	DR	Data are consistent throughout the P.D.	OK	OK
B.6.7.1. Will the project result in fewer GHG emissions than the baseline scenario?	DR	The project will result in higher emission reductions than the baseline scenario.	OK	OK
B.6.7.2. Are the emissions reductions projected in line with the envisioned time schedule for the project' implementation and the indicated crediting period?	DR	The emission reductions projected are in line with the envisioned time schedule for the project' implementation and the indicated crediting period.	OK	OK
B.7. Application of the monitoring methodology and description of the monitoring plan				
<i>B.7.1. Description of the monitoring plan</i>				
B.7.1.1 Is the monitoring plan documented according to the approved methodology and relevant tools and in a complete and transparent manner?	DR	The monitoring plan is documented in an appropriate way in the P.D and methodological annex.	OK	OK
B.7.1.2. Does the monitoring methodology provide a consistent approach in the context of all parameters to be monitored and further	DR	Information in P.D is complete regarding parameters to be monitored. Information is in	OK	OK

information provided in the VCS-PD?		compliance with the applicable methodology.		
B.7.1.3. Does the monitoring plan provide a clear description of the organization structure involved in monitoring activities and their responsibilities?	DR	The monitoring plan provides a clear description of the organization structure involved in monitoring activities and their responsibilities	OK	OK
B.7.1.4. If applicable: Does VCS-PD provide useful information enabling a better understanding of the envisioned monitoring provisions?	DR	Information in the P.D is useful to a better understanding of the monitoring provisions	OK	OK
B.7.1.5. Is the registration, monitoring, measurement and reporting procedure defined?	DR	QC/QA procedures were detailed in the monitoring plan.	OK	OK
<i>B.7.2 Compliance of the monitoring plan with the approved methodology</i>				
B.7.2.1 Is the list of parameters considered to be complete with regard to the requirements of the applied methodology? Are all of them clearly described in the monitoring plan and in accordance with the methodology and tools?	DR	CAR 7 However, All the information required for each parameter is not included due to template used for each parameter is not correct. This car is closed, the PPs updated the template used for the parameters to be monitored.	CAR 7	OK
B.7.2.2. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	DR	The monitoring plan provides enough information for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period.	OK	OK

B.7.2.3. For parameter: a. Title in line with methodology? b. Data unit correctly expressed? c. Parameter appropriately described? d. Source clearly referenced? (And appropriate?) e. Measurement methods correctly described and in line with the methodology/tools? f. Frequency of monitoring/recording is in line with the methodology/tools? g. Correct value provided for the purpose of VCS-PD estimations? h. Monitoring equipment is correctly described? i. QA/QC procedures described (And appropriate?) j. Correct reference to standards (i.e. for calibration and maintenance)?	DR	For each parameter to be monitored the information provided in the P.D is complete.	OK	OK
<i>B.7.3 Implementation of the Monitoring Plan</i>				
B.7.3.1 Do the means of monitoring of each of the parameters included in the plan complies with the requirements of the methodology?	DR	Means of monitoring of each parameter is in compliance with methodology.	OK	OK
B.7.3.2. Is the measurement equipment described and deemed appropriate?	DR	The measurement equipment are deemed appropriate.	OK	OK

B.7.3.3. Are procedures identified for maintenance of monitoring equipment and installations? Are provisions regarding the calibration intervals included in the monitoring plan?	DR	Procedures for maintenance of equipment are available when applicable.	OK	OK
B.7.3.5. Is the monitoring Plan sufficient to ensure the verification of a proper implementation of the monitoring plan?	DR	The monitoring plan is enough to ensure the verification of the implementation of the monitoring plan.	OK	OK
C. ENVIRONMENTAL IMPACTS				
C.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
C.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described in the VCS-PD?	DR	The environmental impacts have been described in the PD and supported documentation.	OK	OK
C.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	DR I	The project fulfils with the environmental rules of the host country.	OK	OK
C.1.3. Will the project create any adverse environmental effects? Has any environmental impact identified as significant?	DR	Adverse impacts were identified and they are shown in the P.D. No negative impacts were detected.	OK	OK
C.1.4. Does the project comply with any other environmental legislation in the host country?	DR	The project fulfils with environmental requirements of the country.	OK	OK
C.1.4. Are transboundary environmental impacts identified in the analysis?	DR	No transboundary environmental impacts are identified in the analysis.	OK	OK
C.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all				

references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party.				
C.2.1. Have the identified environmental impacts been addressed in the VCS-PD sufficiently?	DR	Yes, they have been sufficiently addressed.	OK	OK
D. STAKEHOLDERS' COMMENTS				
D.1. Brief description how comments by local stakeholders have been invited and compiled				
D.1.1. Have relevant local stakeholders been consulted? Is the exact date of the consultation process included in the VCS-PD?	DR I	Relevant local stakeholders were consulted. A complete report of the consultation process was provided (FPIC report).	OK	OK
D.1.2. Have appropriate media been used to invite comments by local stakeholders?	DR	Appropriate media were used to invite comments by local stakeholders.	OK	OK
D.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	DR	The consultation process was defined to comply with requirements of the VCS and CCB schemes but also the consultation process was carried out according to national regulations in these issues.	OK	OK
D.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	DR	The process was carried out in a complete and transparent manner.	OK	OK
E.2. Summary of the comments received				
E.2.1. Is a summary of the stakeholder comments received provided?	DR	A complete report of the consultation process was provided. This report gathers comments received from stakeholders during the process.	OK	OK

E.3. Report on how due account was taken of any comments received				
E.3.1. Has due account been taken of any stakeholder comments received?	DR	The CLIP report details how the comments received from stakeholders were considered. The main issues were related the Entities managing the project, the benefits for local communities and how the benefits would be managed and activities allowed under the project.	OK	OK
E.4. Non-permanence risk				
Has a non permanence risk report been prepared using the VCS Non permanence risk report template?	DR	The correct version of the non permanence risk report template (short form) has been used. Likewise, the version of the risk calculation tool template is also correct.	OK	OK
Has the risk analysis been carried out in accordance with the VCS document AFOLU Non permanence risk tool?	DR	CAR 8 - For the “Project Management” indicator and criterion a) the species to be used shall be clarified because they are inconsistencies between the PD and risk report. It shall be provided further information to demonstrate the fulfilment with criterion f). - For the “Financial viability” indicator explanations shall be provided explanations about criterion used and evidence to support them. - For the “opportunity cost” indicator evidence and explanations shall be provided for the criteria chosen. Likewise, the clarification from VCS must be used. - For the “Community engagement” information related to consultation process for stakeholders out the project area shall be provided. CAR 8 - The political risk has been calculated for the last 8 years. - For the natural risk “fire” evidence shall be	CAR 8	OK

		provided for the significance criterion. Likewise, an explanation/report should be provided to explain the parameter used “density” with carbon losses. On the other hand, the assessment period for fires in the region shall be clarified. Evidence about mitigation measures to evaluation the fire risk shall be provided. • Evidence shall be provided to support values given for pest and diseases risks. This CAR is closed. All issues have been corrected. A new risk assessment was carried out using correct data and values.		
Has buffer credits taken into account based on the non permanence risk report?	DR	Yes, the buffer credits were correctly estimated once CARs were resolved.	OK	OK

*MoV/Ref: Means of Validation and references of background documents. DR: Desk Review; I: Interview