VALIDATION & VERFICATION REPORT

AFFORESTATION IN EUCALYPTUS AND ACACIA PLANTATIONS FOR BURAPHA AGROFORESTRY CO., LTD.

Document Prepared by TÜV NORD CERT GmbH

Project Title	Afforestation in Eucalyptus and Acacia plantations for Burapha Agroforestry Co., Ltd.
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Summary:

Description of validation/verification and project: The VCS Project "Afforestation in Eucalyptus and Acacia plantations for Burapha Agroforestry Co., Ltd." is a group project and a major afforestation project in Lao PDR implemented by the private sector. Burapha is a Lao-Swedish company that aims to produce high quality timber for the veneer, plywood and sawmill industry, mainly for their recently established own plywood mill. The plantations are located in the Prefecture of Vientiane and the Provinces of Vientiane, Xayabouly, and Saysomboun. The project establishes Eucalyptus and Acacia plantations on lands degraded by swidden agriculture. The land where the plantations are established is either community, state or private owned. Long term land lease contracts assure the longevity of the project. In the first years of the plantation establishment the local farmers have the possibility to use the plantation for agroforestry purposes. This includes mainly planting of crops and cattle grazing. The history of the plantation dates back to the 1990s but all trials and attempts to established commercial plantations failed due to mainly financial barriers. After a change of management in 2015 a new approach was started, which included the consideration of carbon credits as part of the financial model. Presently the plantations cover a total area of about 8,229 ha which are all FSC-certified. Out of this, 2,946 ha were planted after the project start date in 2016 and covered by this validation. Out of this all plantation areas in the province of Xayabouly (170 ha) had been conservatively excluded from the current verification as there is a potential double counting aspect. The project plans to increase the total plantation area up to 72.000 ha, including 12.000 ha of nature protection areas.

Purpose and scope: The validation and verification objective is an independent assessment by a Third Party of a proposed project activity against all defined criteria set for the registration under the VCS.

In order to confirm that the project activity, as documented, is sound reasonable and meets the identified criteria, the validation involves the assessment of project conformance to VCS rules, project conformance to the applied methodology, including the procedure for the demonstration of additionality specified in the methodology; and likelihood that methods and procedures set out in the project description will generate verifiable GHG data and information when implemented. Validation is a requirement and is seen as necessary to provide assurance to stakeholders of the quality of project and its intended generation of VCUs. Validation is part of the VCS project cycle and will finally result in a conclusion by the executing VVB whether a project activity is valid to be submitted for registration to VCS registry. The ultimate decision on the registration of a proposed project activity rests with the VCS/Verra.

The Verification is based on the draft joint project description & monitoring Report/01/, emission reduction calculation spreadsheet/06/, the monitoring plan as set out in the validated joint project description & monitoring Report/01/ and supporting documents made available to the TÜV NORD JI/CDM CP by the project participant.

Method and criteria: Validation is conducted using TÜV NORD CERT GmbH procedures in line with the requirements specified in the latest version of the VCS Validation and Verification Manual and applying auditing techniques. The validation team assessed the proposed project activity's compliance under the VCS Version 4.2, the selected methodology and the project description. The project activity is found to be appropriately eligible under Project Scope 14 "Agriculture, Forestry, and other Land Use (AFOLU). The validation criteria followed the guidance documents provided by VCS including the following: VCS Standard Version 4.2, VCS Program Guide Version 4.0, AFOLU Non-Permanence Risk Tool Version 4.2, approved CDM methodology: AR-ACM0003 "AR Large scale - Afforestation and reforestation of lands except wetlands", version 2.

Number of findings: In the course of the validation 8 Corrective Action Requests (CARs), 10 Clarification Requests (CLs) were raised and successfully closed. Five FARs were raised. The assessment is included in Annex 4 in the report.

Uncertainties: There are no restrictions of uncertainty.

Validation conclusion: Burapha Agroforestry Co. Ltd. has commissioned the TÜV NORD JI/CDM Certification Program to carry out the Verified Carbon Standard (VCS) validation and verification of the project: *Afforestation*

in Eucalyptus and Acacia plantations for Burapha Agroforestry Co., Ltd (PL 2367) with regard to the relevant requirements of VCS standard Version 4.2. TÜV NORD confirms all validation activities including objectives, scope and criteria, level of assurance, monitoring and project documentation adhere to VCS Version 4.2. TÜV NORD concludes that the *Afforestation in Eucalyptus and Acacia plantations for Burapha Agroforestry Co.* joint project description & monitoring Report (PDMR) version 06 of 14-April-2022 meets the requirements of VCS and all associated updated. The GHG assertion for the First Project Instance provided by Burapha Agro-Forestry Co. Ltd. and validated by TÜV NORD will result in estimated Project emissions or removals of 898,927 tCO2e and an estimated net GHG emission reductions or removals of 604,015 tCO2e or 30,201 tCO2e/year on 2,946 ha over the 20 years crediting period.

Verification conclusion: The project instance included in this verification consists of 2,076 hectares of degraded land afforested through planting of Eucalyptus and Acacia species for commercial use. Planned rotation period is seven years.

Verification Period: from 31/05/2016 until 22/12/2020 (including both days)

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the Joint Project Description and Monitoring Report (PDMR);
- the monitoring plan is in accordance with the applied approved VCS methodology, i.e., AR-ACM0003 "AR Large scale - Afforestation and reforestation of lands except wetlands", version 2.
- the installed equipment essential for measuring parameters required for calculating emission reductions are properly maintained;
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

In addition, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above-mentioned reporting period as follows:

Year (vintage)	Baseline emissions or removals (tCO2e)	Project emissions or removals (tCO2e)	Leakage emissions (tCO2e)	Net GHG emission reductions or removals (tCO2e)
2016	36.792	30.487	-	-6.304
2017	23.341	47.147	-	23.806
2018	14.331	56.107	-	41.777
2019	6.211	57.491	-	51.281
2020	0	57.491	-	57.491
Total	**80.674**	**248.724**	**-**	**168.050**

- Total Emission reductions for this monitoring period: 168,050 t CO2e

CONTENTS

1 INTRODUCTION

1.1 Objective

The purpose of a validation & verification is to have an independent third party assess the project design, In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of the VCS Version 4,2;
- the requirements of the approved methodology;
- relevant rules, including the host country legislation;

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria, Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of Verified Carbon Units (VCUs) / Emission reductions,

The purpose of this verification, by independent checking of objective evidence, is as follows:

- to verify that the project is implemented as described in the project design document/PDMR;
- to assess the implementation of the monitoring plan (MP) content in the VCS-PD/PDMR;
- to assess the project's compliance with other relevant rules, including the host country (Lao PDR) legislation;
- to confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions (VERs/VCUs) or ERs without any double counting; and
- to establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation,

1.2 Scope and Criteria

The validation scope is given as a thorough independent and objective assessment of the project design including especially the correct application of the methodology, the project's baseline study, additionality justification, stakeholder involvement, environmental impacts and monitoring plan, which are included in the joined project design document & monitoring report/01/ and other relevant supporting documents, to ensure that the proposed VCS project activity meets all relevant and applicable VCS Version 4,2 criteria.

the information included in the joined project design document & monitoring report/01/ and the supporting documents were reviewed and assessed against the requirements as set out by the VCS Version 4,2.

the validation is not meant to provide any consulting to the project participants, however, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design,

the verification of this project is based on the joined project design document & monitoring Report/01/, emission reduction calculation spread sheet/ 06/, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment, Furthermore, publicly available information was considered as far as available and required,

The TÜV NORD JI/CDM CP has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions,

The validation/verification is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions, TÜV NORD JI/CDM CP cannot be held liable by any entities for making its validation opinion based on any false or misleading information supplied to it during validation/verification.

1.3 Level of Assurance

The validation has been planned and organized to achieve a

☒ reasonable level of assurance

☐ limited level of assurance

1.4 Summary Description of the Project

The VCS Project "Afforestation in Eucalyptus and Acacia plantations for Burapha Agroforestry Co., Ltd." is a group project and a major afforestation project in Lao PDR implemented by the private sector. Burapha is a Lao-Swedish company that aims to produce high quality timber for the veneer, plywood and sawmill industry, manly for their recently established own ply mill. The plantations are located in the Prefecture of Vientiane and the Provinces of Vientiane, Xayabouly, and Saysomboun. The project establishes Eucalyptus and Acacia plantations on lands degraded by swidden agriculture. The land where the plantations are established is either community, state or private owned. Long term land lease contracts assure the longevity of the project. In the first years of the plantation establishment the local farmers have the possibility true use the plantation for agroforestry purposes. This include mainly planting of crops and cattle grazing. The history of the plantation dates back to the 1990s but all trials and attempts to established commercial plantations failed due to mainly financial barriers. After a change of management in 2015 a new approach was started, which included the consideration off carbon credits as part of the financial model. Presently the plantations cover a total area of about 9622,50 ha/32/ which are all FSC®-certified/. Out of this 2,946 ha are eligible planting area, planted after the project start date in 2016 and covered by this validation/verification. The project plans to increase the total plantation area up to 72.000 ha, including 12.000 ha of nature protection areas. The present workforce at Burapha as a company is 404 permanent and 1528 seasonal jobs.

Project start date of the First Project Instance is dated 31st May 2016. Verra granted the project proponent an extension of twelve months to the five-year validation deadline for the validation of this project.

The 1st monitoring period is from 31st May 2016 to 22nd December 2020. In this period a net carbon emission reduction of 168,050 tCO2-equivalent has been determined, which results in 134,440 VCUs deducting the 20 % buffer/02/03/06/.

2 VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

The validation/verification of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers

- Publication of the VCS project description & monitoring report/01/
- A desk review of the VCS project description & monitoring report/01/ submitted by the client and additional supporting documents with the use of customised validation protocol
- Validation and verification planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation and verification reporting
- Resolution of corrective actions
- Final validation and verification reporting
- Technical review
- Final approval of the validation and verification,

The sequence of the validation is given in the table 2,1 below:

Table 2,1: Validation sequence

Topic	Time
Assignment of validation	2020-11-05
On-site visit	2021-12-06 – 2021-12-09
Draft reporting finalised	2022-04-01
Technical review on draft reporting finalised	-
Final reporting finalised	2022-04-01
Technical review on final reporting finalised	2022-04-20
Final corrections	2022-04-20
Final corrections after PRR by VERRA	2022-10-12
Final corrections after PRR by VERRA	2023-03-02

Sampling Plan: The eligible area of project activity is FSC certified. The sampling was based on the communities involved in the project activity. Out of the 42 villages included in the project area a short list of 10 was randomly selected. Out of this short list the audit team selected 4 villages for the onsite visit, assuring to visit 4 different districts and including areas where harvesting operations took place. The number of villages were calculated following the sampling approach described in the FSC Standard FSC-STD-20-007 for "Number of FMUs or Group Members < 100ha sampled in Main Evaluation X = $0.6*\sqrt{y}$. Hence, four village sites were visited. At each village site, 1 Permanent Sample Plot was reassessed. Due to the homogeneity of the plantations, the size of the sample plots, and the professional assessment teams the number of 4 PSPs was considered to be meaningful.

Appointment of Validation Team: Based on a competence analysis and individual availabilities a validation team was appointed. Furthermore, also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned, and the qualification status are summarized in the table 2-2 below,

Table 2-2 Validation team member

No,	Role	Type of resource	Last name	First name	Affiliation (e,g, name of central or other office of DOE or out-sourced entity)	Involvement in			
						Desk/Doc review	On-site inspection	Interview(s)	Validation/Verification findings
1,	Team Leader (also verifier)	EI	Seitz	Martin	External Expert	☒	☐	☒	☒
2,	Team member	EI	Nuanvixay	Bounta	External Expert	☒	☒	☒	☒
3,	Team member	EI	Smithies	Chris	External Expert	☒	☒	☒	☒

Table 2-3 Technical reviewer and approver

No,	Role	Type of resource	Last name	First name	Affiliation (e,g, name of central or other office of DOE or outsourced entity)
1,	Technical reviewer / Final Approver	IR	Nuske	Alexandra	TÜV NORD CERT GmbH

Refer to Appendix 4 for competence of team members and technical reviewer,

2.2 Document Review

The VCS PDMR[01/] and supporting background documents related to the project design and baseline were reviewed, Documents reviewed included data used to set baseline, carbon rights contracts, additionality analysis and carbon calculation spreadsheets,

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data,

The references used in the course of this validation are summarized in **Appendix 2**,

The validation/verification was performed based on the document check and site inspection, Refer to section 3 of this report for the validation process and section 4 for the verification process in detail and corresponding documents review,

2.3 Interviews

The validation/verification team has carried out interviews to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for the VCS,

Representatives of the PP, consultant, state authorities of different levels, FSC Auditors and other parties including the operational staff of the plantation and community members affected by the project activity have been interviewed,

The interviews served to confirm selected information and to resolve issues identified in the document review, The main topics of the interviews are summarized in Table 2-4,

Table 2-4: Interviewed groups of persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives Project implementor (Project Manger/Field Officer/Community Facilitator) Governmental forestry authorities FSC-Auditor Project consultant Villagers/Communities Smallholders/Land Owners	- Chronological description of the project activity with documents of key steps of the implementation, - Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project - Monitoring and measurement equipment and system, - Financial aspects - Crediting period - Project activity starting date - Ownership - Baseline study assumptions - Additionality - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w,r,t, project management, monitoring and reporting - Editorial issues of the VCS PDMR - Environmental aspects - Social-economic aspects

A comprehensive list of all interviewed persons is part of **Appendix 3**,

2.4 Site Inspections

As most essential part of the validation/verification exercise, it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria, Furthermore, the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. As there were severe travel restrictions due to the Covid Pandemie in Lao

PDR and the borders were practically closed for foreigners, a local social and environmental consulting company was engaged by TÜV Nord to assist the team leader (remote) during the field visits, interviews with local communities and authorities and review to local documents. The main tasks covered during the site visit include, but are not limited to:

- Visit of four villages/communities in four different districts:

Ban Houana (Xaythany District)
Ban Houaydua (Phonhong District)
Ban Phonmuang (Hinheup District)
Ban Nadi (Xanakham District)

- Consultations with villagers, stakeholders, smallholder's in each of the visited villages covering the following aspects: stakeholder involvement, allocation of lands, engagement of local communities, land lease contracts, agro-forestry system, food security, risk of displacement, social and environmental impacts and grievance mechanisms installed.
- verifying the land acquisition process carried out in line with the procedures
- verification of the plantation establishment covering the following main aspects: species planted, spacing, fire management, plantation management, pest and disease management weed control,
- verifying the sample plot assessment in plantations in the selected communities
- the operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures as well as risk of accidents/health and safety
- information processes for generating, aggregating and reporting the selected monitored parameters were reviewed
- the monitoring processes, routines and documentations were audited to check their proper application,
- the monitoring data were checked completely,
- Consultation with local authorities on district level for verification of land acquisition processes, permits for plantation establishment, general observations, established grievance mechanisms, official monitoring of the activities of the project proponent
- Verifying land lease agreements with government, communities and private persons

An onsite visit has been carried out on the date as indicated in table 2.1 above. Mr. Bounta Nuanvixay and Mr Chris Smithies conducted the visit on site and were constantly in the process of exchanging information with the team leader Martin Seitz and debriefing. The field team used checklist prepared by the team leader and added their own working experience and local knowledge. The field team prepared a report for every site/community visited, including photographs and videos.

2.5 Resolution of Findings

Material discrepancies identified in the course of the validation are addressed either as CARs, CLs or FARs, A Corrective Action Request (CAR) is established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,

- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered or that emission reductions would not be able to be verified and certified,

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met,

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification,

A detailed list of the CARs CLs and FAR raised and discussed in the course of this validation is included in **Appendix 4** of this report,

In the course of the validation/verification 8 Corrective Action Requests (CARs) and 10 Clarification Request (CL) were raised and successfully closed. The assessment is included in the report.

2.5.1 Forward Action Requests

Five Forward Action Requests (FARs) have been opened and must be followed up during the 2nd Verification. See also Appendix 4 for details.

FAR ID	01	Section no.	6.4	Date : 18/01/2022
Description of FAR				
The leakage tool has been applied. Leakage is considered “0”. Baseline scenario is described as shifting cultivation for upland rice production. This indicates that the land is required for livestock production. If the area is transferred into tree plantation the communities could look for other areas to grow rice, taking int account that intercropping is practiced only in the first year of plantation establishment. This could result in leakage attributable to the displacement of agricultural activities. During the onsite audit no indication of leakage was detected. Nevertheless, as the expansion of the plantation continues the probability of leakage increases . The PP is presently evaluating the possibilities of different monitoring parameters but there is no conclusion yet. Therefore, leakage monitoring should be part of the monitoring activities. Respective parameters should be developed and considered at next Therefore, leakage monitoring should be part of the monitoring activities. respective parameters developed and considered at next verification				
Project participant response				Date : XX/XX/20XX
Documentation provided by project participant				
☐	Changes in the PD	Section(s):		New version No.:
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			

DOE assessment	Date: xx/xx/2022
Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

FAR ID	02	Section no.	6.4	Date : 28/03/2022
Description of FAR				

As detected during the field inspection the harvesting activities are conducted by contractors using harvesters and not manually by the members of the local communities as described and planned in earlier descriptions/16/18/. This might result into a reduction of Job opportunities for the villagers/local communities and therefore in less income than expected.

Furthermore, the intercropping practically takes only place in the first year after planting /16/17/18/19/. The original planning had foreseen intercropping during the first two years to "ensure that the plantations do not interrupt the traditional food production scheme of farmers and force them to practice shifting cultivation in new and forested areas"/01/.

At the present assessment there was no indication that's the change described causes any negative effect on the local communities. Nevertheless, no substantial information could be provided, whether these practices will have future negative effects on the wellbeing of the communities in terms of food supply or income generation and therefore requires further monitoring.

Project participant response	Date : XX/XX/20XX

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: xx/xx/20xx
Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

FAR ID	03	Section no.	1.17	Date : 19/04/2022
Description of FAR				

Sustainable development:
The project proponent commits himself to set aside a minimum of 20% of the total area as protected area, "Special Management areas" (SMA). These areas shall be managed as nature conservation areas. The value of minimum 10% is already demanded and verified through FSC-audits. The 20% goal is not a standard requirement.
Nevertheless, and the PP has not yet developed and implemented parameters to monitor the successful implementation of the 20% target.

Therefore, "Special Management Areas, SMA" should be included in the monitoring activities considered at next verification.

Project participant response	Date : XX/XX/20XX

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: xx/xx/20xx

Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

FAR ID	04	Section no.	Non-Permanence-Risk-Report	Date : 08/12/2022

Description of FAR

Non Permanence Risk Report, Project management:

The PP shall assess the following at next verification: "Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located."

Project participant response	Date : XX/XX/20XX

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:

☐	Other:	

DOE assessment	Date: xx/xx/20xx
Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

FAR ID	05	Section no.	1.16	Date : 01/03/2023

Description of FAR

Double Counting:

The FCPF-CF Northern Lao PDR Emission Reduction Program (ERPA) is focused on Emissions Reductions (ER) from reduced deforestation, forest degradation and enhancement of forest carbon stocks (REDD+) in six Lao PDR provinces, which includes Xayabouly Province/65/76/. This creates a potential for double counting of VERs in the mentioned province of Xayabouly. The "Announcement Letter" /44/ issued by Ministry of Agriculture and Forestry, does not clearly specify the double counting aspect for PAIs in Xayabouly Province. Hence the PP excluded all areas from the present 1st verification assessment.

For any future PAI the risk of double counting shall be assessed for all provinces covered by the ERPA/65/76/ or other programs, specifically Xayabouly Province, in line with the VCS Standard requirement (VCS 4.2, Section 3.21.3) at every upcoming verification assessment.

Project participant response	Date : XX/XX/20XX

Documentation provided by project participant

☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: xx/xx/20xx
Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

3 VALIDATION FINDINGS

3.1 Project Details

According to VCS Standard document version 4, the project activities fall under the eligible AFOLU project category of "Afforestation, Reforestation and Revegetation (ARR). the sectoral scope is 14 AFOLU. The proposed project is designed as a VCS grouped project.
The proposed project consists of the afforestation of degraded land to establish quality timber plantations. Species planted are Eucalyptus species and Acacia.
Lao PDR is a partner country of the FCPF and runs under the REDD+ program, however the carbon project itself does not run under a JNR program of the VCS.

Eligibility:
A) 10 years no clearance of native ecosystems: No conversion of primary natural forest took place on the project area within the last 10 years. As the project area has been degrades agricultural land, formerly used for shifting cultivation, it is ensured, that no conversion of natural forests took place. The company developed their own land acquisition process which is described in the SOP"Land acquisition operations manuals/10/11/12/. It also includes socio-economic criteria to minimise the risks of land use conflicts. In Addition, each plantation establishment is subject to final confirmation by the local forestry authorities/20/.
In addition, the project area is FSC certified. As part of the FSC certification process Burapha "must demonstrate that vegetation cleared for plantation establishment was not 'natural forest' after 01. November 1994 or was otherwise cleared prior to Burapha involvement for Full Certification." (FSC Principles and Criteria V5 (2015) Criteria 6.10; cited in Forest Clearance Memo, 2016).
Finally, a currently conducted but not yet finalized remote sensing NDVI Study (Normalized Difference Vegetation Index) covering the period 2006 – 2020/77/ supports the results of the eligibility assessment.

The audit team revied the documents mentioned and verified the information by field inspections of the selected areas, review of external documents like the FSC reports/FSC/ and interviews with forestry authorities responsible for the establishment of the plantations/10/11/12/15/16/17/18/19/20/.
Conclusion: The project complies with the requirements.

B) No Drainage: According to the ESIA Burapha does not intend to alter hydrological functions of the project area/08/. No indications for drainage activities were found during the onsite field inspections/16/17/18/19/.

Project design, including eligibility criteria for grouped projects:
Eligibility criteria for new instances are clearly defined in the project design document and monitoring plan/01/ and follows the process as described in the SOP /10/11/12/.

TÜV NORD JI/CDM CP confirms that the Eligibility Criteria as set out by the Standard were thoroughly assessed and found in compliance with the requirements. The above mentioned was further confirmed by document review, interviews and observations made during the field visit and onsite inspections.
Conclusion: The project complies with the requirements.

Ownership:

Burapha consults villagers and village representatives, as well as the Lao Government in order to receive permission to survey and lease land for the project. Landowners are village corporations', private farmers, farmer corporations or state concessions. A minor proportion is directly owned by the project proponent. The project proponent, Burapha Agro-Forestry Co. Ltd., has long term contractual agreements with all the landowners/13/06/45/.

Village cooperation agreements foresee 30 years of lease with the option for extension of another 20 years, where all stakeholders have to approve concession periods are set to 50 years with the option of a 25 year extension, pending approval by all stakeholders. The state/villages/individuals have agreed that the property rights on the carbon credits generated by this afforestation are exclusively allocated to the proponent of the Project. Under this agreement, the beneficiary state/villages/individual is committed not to assert any property rights over the carbon credits generated and/or to be generated. In case of the state land, it is assured that the carbon ownership is guaranteed to Burapha by the Forestry law (2019), Art. 103.

The audit team conducted a detailed assessment of the land agreements. It concentrated on the 107 contracts which covered the full area of the four selected communities. 10% of the contacts were randomly selected. Four additional contracts were included to assure that all types of ownerships and the parcels visited were covered by the assessment. the audit team did not find any indication for and noncompliance with laws or standard requirements. Details for the assessment details of the assessment are provided in a report/52/.

Based on the information and documents provided/01/, information obtained during interviews/20/39/40/41/42/43/, observations made during the field visit/16/17/18/19/ and the long term technical and practical expert knowledge of the auditor and the team related to forest carbon projects, the audit team confirms standard conformity of ownership requirements.

Conclusion: The project complies with the requirements.

Project start date:

Starting date of the proposed ARR project activity: 31 May 2016. This corresponds with the dates of the first planting activities/45/06/ after the implementation of the new management. See also section 3.5, Additionality. Corresponding records//45/06/ were checked, and the information obtained in the field via interviews with smallholders and project implementers,

Although the validation/verification took place longer than five years after project start date (31 May 2016) the project is eligible as a 12 month extension was granted by VERRA /14/ till 20.04.2022

Based on the information and documents provided/01/, information obtained during interviews/20/39/40/41/42/43/, observations made during the field visit/16/17/18/19/ and the long term technical and practical expert knowledge of the auditor and the team related to forest carbon projects, the audit team confirms standard conformity with the determination of the project start date.

Conclusion: The project complies with the requirements.

Project crediting period:

Project start date	31.05.2016
Project end date	31.05.2036
Total No of crediting years	20 years renewable

Project longevity: > 30 years

Project scale and estimated GHG emission reductions or removals:
Project scale is “Project”, the average GHG removals by sinks is 44,946 tCO2-e/year, in the First Project instance, covering 2.946 ha /05/.

Based on the information and documents provided/01/, information obtained during interviews/20/39/40/41/42/43/, observations made during the field visit/16/17/18/19/ and the long term technical and practical expert knowledge of the auditor and the team related to forest carbon projects, the audit team confirms standard conformity with the determination of the project crediting period.
Conclusion: The project complies with the requirements.

Project location:
The project is located in the northern part of Lao PDR, covering the Prefecture of Vientiane and the Provinces of Vientiane, Xayabouly, and Saysomboun.

Based on the information and documents provided/01/05/06/10/11/12/13/36/37/46/, information obtained during interviews/20/39/40/41/42/43/, observations made during the field visit/16/17/18/19/ and the long term technical and practical expert knowledge of the auditor related to forest carbon projects, the audit team confirms the location of the project as described.
Conclusion: The project complies with the requirements.

Conditions prior to project initiation:
Conditions prior to project initiation are described in detail and include climate, hydrology coma topography, soils, vegetation and ecosystem/01/. Conditions of areas are assessed following a clear process/10/11/12/ and include neither areas that are forests nor areas still used for agricultural purpose. Plantation development is subject to final approval by the forestry department which does not allow clearance of existing forests. Same applies to FSC standard requirements.
Baseline scenario is the same as the conditions prior to project initiation: degraded land with fallow after shifting cultivation.

The audit team revied the documents mentioned/01/ and verified the information by field inspections/16/17/18/19/ of the selected areas/51/, review of external documents like the FSC reports/FSC/ and interviews with forestry authorities responsible for the establishment of the plantations and other stakeholders /20/39/40/41/42/43/.
Conclusion: The project complies with the requirements.

Project compliance with applicable laws, statutes and other regulatory frameworks:
The project complies with applicable laws, statues and other regulatory frameworks. During side visit and interviews the audit team cross-checked legal and regulatory issues/15/16/17/18/19/20/.
Interviews were held with governmental authorities as follows:

Mr. Oloth Sishounthone, Deputy District Governor;
Mr. Phounseng Kendala, Head of District Office of Natural Resources and Environment;
Mr. Boun Gnang Vongvilaxay, Head of District Office of Agriculture and Forestry;
Mr. Sopha Thammanivong, Head of District Administration Office

No conflicts were identified. Evidence to the contrary was not observed during the audit taking into consideration information received by interview with different levels of LAO PDR forestry authorities, other stakeholders and considering the comments (non) of the public comment period.

Conclusion: The project complies with the requirements.

Participation under other GHG programs:
After consulting other carbon project registries/GS/CDM/ICAP/ACR/AOR/CAR/, it can be confirmed that this project activity is not listed or has not been rejected by any other GHG program. There is also no active ETS in the host country/ICAP/,
Conclusion: The project complies with the requirements.

Other forms of credit:
Not applicable, See Section 3,2
Conclusion: The project complies with the requirements.

Sustainable development contributions:
Most of Lao PDR's CO2 emissions are the result of deforestation and forest degradation. The Burapha Carbon project counteracts this through afforestation, forest conservation and agroforestry on degraded lands. Hence, the project activity supports the countries' goal to achieve 70% forest cover by 2020/54/55/, which is also declared in the NDC and Paris agreement ratification.

The audit team revied the documents mentioned/01/ and verified the information by field inspections/16/17/18/19/ of the selected areas/51/, review of external documents /FSC/ and interviews with forestry authorities responsible for the establishment of the plantations and other stakeholders /20/39/40/41/42/43/.

Conclusion: The project complies with the requirements.

Additional information relevant to the project:
FSC requires to set aside a minimum of 10 % of the management unit/plantation area for Representative Sample Areas in combination with other components of the conservation areas network. This value is verified by the FSC audits on yearly base /FSC/.
Nevertheless, PP aims to protect 20% of its area as "Special Management areas" (SMA).

FAR ID	03	Section no.	1.17	Date : 28/03/2022
Description of FAR				
Sustainable development:				

The project proponent commits himself to set aside a minimum of 20% of the total area as protected area, “Special Management areas” (SMA). These areas shall be managed as nature conservation areas. The value of minimum 10% is already demanded and verified through FSC-audits. The 20% goal is not a standard requirement.
Nevertheless, and the PP has not yet developed and implemented parameters to monitor the successful implementation of the 20% target.

Therefore, “Special Management Areas, SMA” should be included in the monitoring activities considered at next verification.

Based on the documentation provided, the documentation reviewed during the desk review, the onsite visit as well as the interviews conducted, TÜV NORD JI/CDM CP confirms that the description in the project description is accurate, complete, and provides an understanding of the nature of the project,

Related Findings see CL1, CL2, FAR 3

3.2 Participation under Other GHG Programs

The proposed project activity has not been seeking registration under another GHG program. Lao PDR published their Intended National Determined Contributions (INDC’s; ndcs.undp.org) covering also an increase in forest cover. Up to date an implementation plan is still pending. Lao PRD is also registered in the REDD readiness program. A Letter of Endorsement from Government of Loa/Ministry of Agriculture and Forestry/Department of Forestry/44/44a/ acknowledges the implementation of the carbon credit project. This letter confirms “that Burapha Agro-Forestry Co.Ltd shall proceed forest carbon credit trade by itself.”

The existing FCPF-CF Northern Lao PDR Emission Reduction Program, signed 2020, is focused on Emissions Reductions (ER) from reduced deforestation, forest degradation and enhancement of forest carbon stocks (REDD+) in six Lao PDR provinces, which includes Xayabouly Province /76/. 170 ha of project area are within this province boundary. As the Letter of Endorsement as described above/44/44a does not explicitly mention the named province the PP is seeking a confirmation letter from the Lao Government of no double counting for the Xayabouly Province. Hence the VVB does not accept the confirmation letter provided/44/44a/ for PAIs in Xayabouly. Therefore, the PP have added an additional eligibility criterion for project instances, requiring any areas in Xayabouly Province to also obtain a letter confirming no double counting with The World Bank program. While the PP is seeking the confirmation letter from the government it excluded the 170 hectares currently planted for the first verification. All calculations for the first monitoring period have been adjusted to be net of the 170 hectares in Xayabouly, and the PD tables adjusted.

Hence, it can be concluded that for the areas included in the 1st verification presently no risk of any double counting is expected. In addition, FAR 05 has been issued to assure to assure that the risk of double counting will be assessed for any future PAI for all provinces covered by the ERPA/65/76/, specifically Xayabouly Province, in line with the VCS Standard requirement (VCS 4.2, Section 3.21.3).

3.3 Safeguards

3.3.1 No Net Harm

The proposed project activity is afforestation project of degraded and abandoned swidden agricultural land. Plantations are established for commercial use, allowing the landowners to practice agroforestal and silvopastoral systems in the first two years after establishment of the plantation. Landowners lease their land to the company and get a lease continuing payment. The Laotian Forestry Law (Forestry Law, Art 87, 2019) states, that every forest plantation project, which operates with concession land in Lao PDR has to conduct an Environmental and Social Impact Assessment (ESIA 2016). This ESIA was conducted and a draft version provided/08/. Socio-economic impacts assessment of Burapha plantations covered the following aspects: Economic development, Employment/Income generation, Community land availability, Village livelihoods, Food security, Community health and safety, Occupational Health and Safety, Water resource use, Fishing and Aquatic Resource Use, Cultural Heritage, Gender, Vulnerable Groups and Ethnic Minorities.
In addition, the plantation sites are regularly inspected by the local forestry authorities/20/ and since 2013 subject of annual inspections by an independent third party/FSC/.

The ESIA concludes, "that the planned development of 55,000 ha of Eucalyptus and Acacia plantation (total land area of 68,750 ha) will lead to benefits for Lao PDR and local communities. These include:
Employment for local communities;

- Community development support and agricultural initiatives;
- Increased cash income within the region;
- Export income for Lao PDR; and
- Training and capacity building.

Key aspects will require careful management to ensure impacts are minimised. These include:

- Careful selection of plantation growing areas to ensure biodiversity protection and community land requirements are respected;
- Community and occupational health and safety with respect to fire and transport accident risks; and
- Management of operational areas to protect from erosion and general water quality impacts.

The ESIA concludes that with the implementation of environmental and social safeguards as identified in the ESMMP the plantation can provide benefit to the surrounding communities and Lao PDR without significantly impacting the surrounding environment." /08/
The results are also supported by the "Burapha agroforestry partnership village benefit assessment report", 2019 which was conducted by another independent consulting in 2018/55/.
Concerning the adverse of the use of none-native species and the invasiveness of the planted species and the Impact on the use of fertilizers and biological control agents the audit team verified the information provided in the PDMR by review of the supporting documents provided by the PP, field inspections of the project area/16/17/18/19/, review of external documents like the FSC reports/FSC/ and the "Environmental Compliance Certificate" issued by the Ministry of Natural resources and Environment, Department of Environment/83/, interviews conducted with forestry authorities responsible for the establishment of the plantations, communities and land owners .
Conclusion: The project complies with the requirements.

TÜV NORD JI/CDM CP confirms that the project activity does not lead to any net harm in regard to environmental and socio-economic impacts. The above mentioned was further confirmed by interviewing the field

staff, technical staff, implementing partners, community members, smallholders and forestry authorities/16/17/18/19/20/.

3.3.2 Local Stakeholder Consultation

Stakeholder consultations take/took place prior to the implementation of the project activities as well as prior to listing the VCS-PD in the VCS registry.
Local stakeholder consultations are described in detail in the PD. Following Standard Operational Procedures (SOPs) dealing with community sensitization and consultation have been developed and implemented:
1) Community engagement and communication/57/
2) Grievance Management and Dispute resolution/56/
These consultations follow an FPIC approach.
The general communication principles of Burapha are:
1) Ensure free, prior and informed consent is applied to all negotiations and agreements.
2) Deliver information that is transparent, accurate, timely and based on facts.
3) Communications characterized by responsibility and commitment to the criteria of sustainable development.
4) Awareness and respect of the cultures, customs and values of individuals and groups in Lao PDR.
5) Sharing information promptly and advocate an open dialogue with stakeholders.
This is also described by the conducted Environmental and Social Impact Assessment/08/ and the Village Benefit Assessment Report which states that "Burapha operates on the principles of free, prior and informed consent (FPIC) and has maintained semi-formal but ongoing relationships with partnership villages."

The ongoing consultations were cross-checked with the members of the communities met during the field visit/20/39/40/41/42/43/.

During the onsite visit, only in one case a complaint was expressed by a farmer concerning the payment of the land lease. This has been considered in clarification request CL08. To the contrary, most persons interview expressed a high appreciation for the project and the positive input of the project on the socioeconomic conditions.
No comments have been received during VCS's public stakeholder process/VERRA/

TÜV NORD JI/CDM CP confirms that the PP takes adequately due account of all, and any input received. The above mentioned was further confirmed by document review, interviews and observations made during the field visit and onsite inspections.

Related Findings CL 08

Conclusion: The project complies with the requirements.

3.3.3 Environmental Impact

An overview of the project's environmental impacts is provided in the PDMR /01/ and in detail e ESIA report, chapters 7 and 8 /08/. Overall, the proposed project activity is not considered to have significant negative environmental impacts.
TÜV NORD JI/CDM CP confirms that the PP takes adequately due account of all, and any input received. The above mentioned was further confirmed by document review, interviews and observations made during the field visit and onsite inspections.

3.3.4 Public Comments

This project was open for the 30 days public comment period from 22/02/2021 to 24/03/2021. No comments have been received,

3.3.5 AFOLU-Specific Safeguards

The PP has an identified and contacted a broad range of stakeholders/39/, including location village administration, governmental forestry authorities of different levels, local and international social and environmental NGOs and the participating land and anticipating landowners.

There are SOPs in place for stakeholder identification and ongoing communication including grievance mechanisms/57/58/. A detailed description is provided in the ESIA chapter 12 /08/ dated 2016.
The Burapha Agro- Forestry Partnership Village Benefit Assessment Report 2018 examined socioeconomic and livelihood conditions in partner villages in Vientiane Capital, Vientiane Province, and Xayabouly province. The assessment teams surveyed 379 households in 161 partner villages and 97 households in four nearby control villages, selected for demographic similarities to nearby Burapha partner villages/56/.

TÜV NORD JI/CDM CP confirms that the PP takes adequately due account of all, and any potential negative socio-economic impact. The above mentioned was further confirmed during the field visits in interviews with field staff, technical staff, members of the local communities and landowners the ESIA/08/ conducted and the Environmental Compliance Certificate issued by the Ministry of Natural resources and Environment, Department of Environment/83/.
No indication of a deviation to the indicators has been detected during the audit.
Conclusion: The project complies with the requirements.

3.4 Application of Methodology

3.4.1 Title and Reference

Approved CDM methodology: AR-ACM0003 " AR Large scale - Afforestation and reforestation of lands except wetlands", version 2
The following CDM methodological tools have been used in combination with the methodology:

- "Combined tool to identify the baseline scenario and demonstrate additionality", version 7
- "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities, version 4.2

- "Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity", version 4.0
- "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities", version 01.1.0
- "Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities", version 01.1.0

3.4.2 Applicability

Audit team has reviewed the explanation provided in the joined project design document & monitoring for demonstrating that the project activity meets the requirements of the applicability criteria of the methodology, The following table gives TÜV NORD JI/CDM CP's assessment on the justification provided,

Table 3-1: Applicability of the methodology applied

Applicability condition	Tuv Nord assessment and justification
The land subject to the project activity does not fall in wetland category	The plantations are established on foothills on former shifting cultivation areas. Wetlands, as well as riparian zones are avoided and not considered for planting. A detailed description including soil maps is provided in the PDMR. This was confirmed by interviewing the field staff, technical staff, plantation managers, landowners, community members and forestry authorities and observations made during the field visit
Soil disturbance attributable to the project activity does not cover more than 10 per cent of area in each of the following types of land, when these lands are included within the project boundary: i. Land containing organic soils; ii. Land which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 1 and 2 to the methodology.	During the site visit it could be observed that the project activity did not result in any kind of soil disturbances above 10% of the area. Ploughing is not foreseen. In addition, land foreseen and used from plantation does Neither contain organic soils nor is subject to land use management practises and does not receive inputs listed in appendix 1 and 2 to the methodology. This was confirmed by interviewing the field staff, technical staff, plantation managers, landowners, community leaders.

Table 3-2: Applicability of the tools applied

Methodological tools	Tuv Nord assessment and justification
Combined tool to identify the baseline scenario and demonstrate additionality	The applicability condition of this tool is assessed and explained in sections 3.3.4 and 3.3.5 of this report.
Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (version 04.2);	There are no applicability conditions contained in this tool.
Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities	N.a. There are no applicability conditions contained in this tool.
Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities a. The areas of land (i) do neither fall into the wetland category… b. The A/R CDM project acidity meets the following conditions: i. Litter remains on site and is not removed in the A/R CDM project activity and ii. Soil disturbance attributable to the A/R CDM project activity, if ans, is: • Limited to soil disturbance for site preparation before planting and such disturbance is not repeated in less than twenty years.	The areas of land (a) do neither fall into the wetland category, nor (b) contain organic soils as defined in "Annex A: glossary" of the IPCC GHG LULUCF 2003. Ploughing is not foreseen; litter is not removed from the sites. This could be observed during the onsite visit/16/17/18/19/ and was confirmed by interviewing the field staff, technical staff, plantation managers, landowners, community members.
Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity", version 4.0	The tool is applicable to all occurrence of fire within the project boundary. Fire is applied for land preparation.
Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity	N.a. Displacement of pre-project activities does not occur.

Calculation of the number of sample plots for measurements within A/R CDM project activities" (Version 2.1.0)	There are no applicability conditions contained in this tool.
Demonstrating appropriateness of volume equations for estimation of aboveground tree biomass in A/R CDM project activities	There are no applicability conditions contained in this tool.

TÜV NORD JI/CDM CP confirms that the methodology applied including all tools applied are applicable for the project activity,

3.4.3 Project Boundary

The proposed project the afforestation of 2,946 ha of degraded swidden agricultural lands as First Project Instance in the Loa PDR. The project boundary is described in the PDMR Section 1.11 as 5 provinces of Bolikhamxay, Saysomboun, Vientiane Province, Xayabouli and Vientiane Prefecture with a total project region of 55.605 km².

The PP has provided the details of the project area in the form of shape files/09/. The documents were thoroughly assessed by the audit team checking the eligibility assessment of the project area by using Google earth imagery and other GIS files. In accordance with the methodology applied and its corresponding tools, the following GHG sources, sinks and reservoirs for the project and baseline scenarios:

Table 3-3: GHG sources,

Source		Gas	Included?	Explanation/Justification
Baseline	Above-ground and Below-ground Biomass	CO2	Yes	Baseline carbon stocks for trees and shrubs were assessed and the change in carbon stock in the baseline estimated as zero.
	Dead wood and litter	CO2	No	No dead wood and Litter are conservatively not accounted
	Soil Carbon	CO2	Yes	SOC is conservatively not set to 0
Project	Above-ground and	CO2	Yes	Major carbon pool subjected to the project

	Below-ground Bio-mass			
	Dead wood and litter	CO2	No	Conservatively not accounted for
	Soil Carbon	CO2	Yes	Carbon stock in these pools is accounted for

Other gases than CO2 are not considered in line with the methodology.

TÜV NORD JI/CDM CP confirms that the project boundary and selected sources, sinks and reservoirs are justified for the project,

3.4.4 Baseline Scenario

As per the methodology CDM AR-ACM0003, the PP has demonstrated the baseline scenario through the application of the "Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities" (version 1).

The following steps have been followed:

STEP 0: Preliminary screening based on the starting date of the A/R project activity:
The first trial attempts to establish plantations, a sawmill and furniture Production date back into the 90s of the last century. These attempts failed due to Laos business barriers. A second attempt started 2009/2010 In collaboration with Stora Enso. A feasibility study conducted in 2011 explicitly included the carbon aspects for both afforestation and avoided deforestation/21/. At that time SilviCapital, a Swedish based forest management company got involved in Burapha. A new management plan including further development of the plantation establishment and a plywood mill was implemented. Benefits from carbon credits were still considered but due to low prices for ERs and other local barriers Burapha and SilviCapital did not succeed in winning new investors/23/60/. End of 2014 it became obvious that due to delay in fund raising the set targets/61/62/63/ could not be reached and there were no further funds to continue with establishment of further plantation sites. Available funds would have enabled the company to run the plantation as already established but not to reach a sustainable size to assure the long term existence/50/. In this context a new management was installed, and the management plan adapted. These marks the date when the project started to develop plantations under the aspect of carbon credits. First plantings under these new conditions started on the 31st of May 2016 and mark the start date of the proposed project activity.
A detailed timetable of the history is provided/23/ and sustained with evidence/10/.
The above could be confirmed by the physical appearance of the forest and corresponding records provided as well as Interviews conducted with the management team including assessment of financial models/35/50/61/62/63/.

STEP 1: Identification of alternative land use scenarios to the proposed A/R VCS project activity:
Sub-step 1a. The following realistic and credible alternatives to the proposed project activity are identified:

The following alternative land use scenarios have been identified as the plausible land use scenarios:

1. Continuation of pre-project land use: Swidden agriculture and fallow regeneration
2. Afforestation of the land with commercial tree plantations without the incentives from the carbon market (project activity)
3. Natural Forest regeneration without assistance

The mentioned alternative land use scenarios were checked during the site visit and confirmed by interviewing stakeholders and the landowners and literature provided/15/16/17/18/19/65/. The continuation of the pre-project is by far the most likely land use scenario for the project area.
No other possible alternative scenarios have been identified and appear reasonable for the project area.

Sub-step 1b. The following realistic and credible alternatives to the proposed project activity are identified:

All mentioned land use alternatives comply with all mandatory regulations and laws as described above in section 3.1. and was confirmed by the audit team by document review and interviews held with local authorities/20/.

STEP 2: Barrier analysis:

> It is noted that "The guideline for objective demonstration and assessment of barriers (UNFCCC, v 1.0, Annex 13) states that "projects in Least Developed Countries (such as Lao PDR) can be assumed in general to face significant barriers to their implementation". At the same time, data availability in these countries is considerably limited which complicates the demonstration of additionality and therefore further increases transaction costs. Therefore, it is sufficient "to transparently describe the relevant barriers" Without the need to carry out data intensive analyses."

Sub-step 2a. List of barriers:
A detailed barrier analysis has been conducted, described in the PDMR and sustained with documents.

Sub-step 2b. Elimination of land use scenarios that are prevented by the identified barriers:

Alternative 1 "Continuation of the pre-project land use: Shifting cultivation" as current land use is not prevented by any of the listed barriers

Alternative 2 "Afforestation of the land within the project boundary performed without being registered as the ARR CDM project activity" is prevent by a series of risks related to the following barriers.

- Barriers due to Institutions
- Barriers due to Technology – market access and public infrastructure
- Barriers due to Land tenure
- Investment barriers

Alternative 3 "Natural Forest regeneration without assistance" is prevent by the following barriers.

- Barriers due to prevailing practice
- Barriers due to environmental conditions

A special focus was set on the investment barrier: following documents have been assessed for the verification of the investment barrier described in the PDMR. Most of the documents are containing commercial sensitive information and are rated therefore as confidential and marked accordingly (*).
10a_Burapha, Investment analysis plantation only, 210916*
10b_SilviCapital Presentation -September 2014 Summary*
10c_Stora Enso to downsize plantation operations in Laos*
10d_Burapha Summary list of investors that declined*
10e_Burapha, Confirmation wood prices, Sunpaper proposal 2021*
10f_Ease of Doing Business in Laos _ 2021 Data _ 2022 Forecast _ 2008-2020 Historical
10g_Finn Fund, Development impact of Finnfund investments in 2016
10h_Finnfund_Impact_Report_2018-1
10i_Finnfund-Annual-Report-2018-1
10j_FMO, Climate Action since 2013
10k_Organisation*
10l_P&L LDN
10m_Project description MIGA*
10n_Rejection conversation examples, v01*
10o_Salwood, FIP Concept IFC Draft Feb 11*
10p_SilviCapital Burapha Agroforestry 2012 Final Draft 19 Mars*
10q_Burapha February 2021 presentation*
10r_Burapha Fundraising 2020 Exe*
10s_Burapha Fundraising Oct 2019*
10t_Burapha Investment timetable 210916*
10u_Burapha Organogram may 2021*
10v_2020.BURAPHA Financial Report 31 Dec*
10w_Burapha AgroForestry pratice in Laos, 2013*
10x_Burapha Annual report 2019*
10y_Burapha August presentation*
22_2018-09 UNIQUE Laos Carbon feasibility Final*
27_Financial Model V8.5.1 No LDN Money - used for Board presentation 2021 12 03 (1) *
28_3.12.2021 BAFCO Board Meeting Minutes_signed*
29_Board Meeting Presentation December 3 2021*
30_VCU Sale and Option Purchase Agreement - Burapha-Sil(1) *
34_Ban Lapueng, A Case Study*
35_Lenders base case v7b (carbon cert) *
Based on the information provided, information obtained during interviews, the team members' knowledge of the country, and cross-checking with publicly available studies, TÜV NORD JI/CDM CP confirms that the barriers listed are plausible and credible.

Sub-step 2c. List of land use scenarios that are not prevented by any barrier:

In view of the above TÜV NORD JI/CDM CP confirms that the continuation of pre-project activity has been identified as the most plausible scenario in the absence of the proposed project activity. I.e. the pre-project land use is the most plausible baseline scenario.

The audit team is aware that additionality assessment presents a crucial point for the validation process for the proposed project activity. Hence, internal documents and information provided where undergoing a detailed and profound assessment. A full set of the documents assessed is provided under supporting documents – Additionality/10/.
Based on the information provided, information obtained during interviews, the team members' knowledge of the country, and cross-checking with publicly available studies, TÜV NORD JI/CDM CP confirms that the barriers listed are plausible and credible.

STEP 4: Common practice analyses:

The PDMR describes the analysis conducted on activities of similar scale that take place in a compatible environment in the relevant geographical area. It considers other plantations concentrating on eucalyptus and acacia species/66/67/. Key distinctions from the proposed project activity are the location (distance to wood markets including Thailand and Vietnam) and the type of land tenure (governmental concessions).

Finally, the is only one AR project registered under the CDM/Verra in Lao, but it is a rubber based agro-forestry project. /68/.

TÜV NORD JI/CDM CP confirms that all data, rationales, assumptions, justifications, and documentation provided by the project participants to support demonstration of additionality are credible and reliable, which was checked and verified at the time of validation. TÜV NORD JI/CDM CP considers the reasoning for the proposed project additionality demonstration is credible and reasonable i.e. the proposed project has the ability to reduce anthropogenic emissions of greenhouse gases by sources below those that would have occurred in the absence of the registered VCS A/R project activity.

Related Findings see CL 3

3.4.5 Additionality

Please refer to section 3.4.4 above.

TÜV NORD JI/CDM CP confirms that all data, rationales, assumptions, justifications, and documentation provided by the project participants to support demonstration of additionality are credible and reliable, which was checked and verified at the time of validation. TÜV NORD JI/CDM CP considers the reasoning for the proposed project additionality demonstration is credible and reasonable i.e. the proposed project has the ability to reduce anthropogenic emissions of greenhouse gases by sources below those that would have occurred in the absence of the registered VCS A/R project activity.
As per the VCS Methodology VM0017, the PP has demonstrated the additionality/baseline scenario through the application of the "Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities" (version 1),

3.4.6 Quantification of GHG Emission Reductions and Removals

Quantification of baseline emissions:
As the project is designed as a grouped project, with an increasing number of plantation sites, the quantification of GHG emission reductions and removals is based on the First Project Instance.

Baseline net GHG removals by sinks are calculated using equation 1 of the applied methodology AR-ACM0003 as well as the several equations from the corresponding tools AR-Tool 14 Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (Version 04.2) and AR-Tool 08 Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity (Version 04.0.0).

One baseline stratum has been distinguished.

Baseline carbon stock changes in trees and shrubs has been assessed and estimated as zero as following indicator applies according to the tool:
12 (f) Land is subjected to periodic cycles (e.g. slash-and-burn, or clearing-regrowing cycles) so that the biomass oscillates between a minimum and a maximum value in the baseline;
As already described in the baseline section all afforestation activities take place on degraded lands which were subject to slash and burn agriculture for several decades.

Baseline carbon stock has been estimated by a study of Hett et al. (2011)/69/, which encompasses several ecological zones of Lao PDR and is accounted with 12.5 t C/ha.
As part of site preparation all baseline trees and shrubs of the fellow vegetation are burnt on site. Following AR-Tool 08 (Version 04.0.0) no extra deduction for non-CO2 GHG emissions have to be incorporated since slash-and-burn practices are part of the baseline.
Total baseline emissions are estimated as follows for year 2016 – 2020 on 2946 ha:

Total biomass Baseline C_{BSL}: 114,492 t CO2e

Detailed baseline emissions assessment is also presented and calculated in the ex-ante estimations spreadsheet, including all relevant input data/05/.
The above described was demonstrated by the PP and thoroughly assessed by the Audit Team and found to comply with good practice.

Related Findings see CL 4

Quantification of project emissions:
Ex-ante actual net GHG removals by sinks are calculated using Equation 2 and 3 of the applied methodology AR-ACM0003.

Change in carbon stock in tree biomass (and its long-term average):

The change in carbon stock in tree biomass is estimated using the A/R methodological tool "estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (Version 04.2). Based on the tool the stock difference method is applied.

Ex-ante tree biomass is estimated using the method of "Estimation by modelling of tree growth and stand development, presented in section 8 of the tool. The estimation of carbon stock changes is based on an average growth assumption for the entire project area, which is 2,946 ha, including the year 2020. The ex-ante growth model was developed based on assumptions presented in the Ex-ante Carbon Calculation spreadsheet /05/.

For ex-post, field measurements in form of inventory data at two points of time will be realized. The calculations will follow the "difference of two independent stock estimations" method, available in section 6 of the tool. For the ex-post calculations only plantation areas established 2016 – 2019 are considered (2.210 ha), as 2020 plantations were not measurable at point of verification (.

Input parameters are taken from internal assumptions/database/measurements (MAI, D, DBH, H, A etc.), and scientific data/69/70/71/ (R/S, D, C_{BSL}), default parameters provide by the tool (CF, f) and from the IPCC2003/72/ (BEF, C_{BSL}, SOC,).

Changes in carbon stock from shrubs, dead wood and litter:

Accounted as zero for the ex-ante and ex-post estimations.

Change in carbon stock in Soil Organic Carbon:
Change in carbon stock in Soil Organic Carbon is calculated applying the "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities". The "rate of change in SOC stock" is derived applying the IPCC Spreadsheet.

Quantification of leakage:
Leakage emissions are accounted as zero in compliance with section 6 of the AR-Tool 15.

As demonstrated in the PDMR there is no source of leakage due to displacement of agricultural activities nor due to the displacement of grazing activities. The project implemented mitigation measures to prevent such potential leakage.
Based on the information and documents provided/08/34/, information obtained during interviews and observations made during the field visit the audit team confirms the quantification of leakage as reasonable.

FAR ID	01	Section no.	6.4	Date : 18/01/2022
Description of FAR				
The leakage tool has been applied. Leakage is considered “0”. Baseline scenario is described as shifting cultivation for upland rice production. This indicates that the land is required for livestock production. If the area is transferred into tree plantation the communities could look for other areas to grow rice, taking into account that intercropping is practiced only in the first year of plantation establishment. This could result in leakage attributable to the displacement of agricultural activities. During the onsite audit no indication of leakage was detected. Nevertheless, as the expansion of the plantation continues the probability of leakage increases. The PP is presently evaluating the possibilities of different monitoring parameters but there is no conclusion yet. Therefore, leakage monitoring should be part of the monitoring activities. respective parameters shall be developed and considered at next verification				

Based on the information reviewed TÜV NORD JI/CDM CP can confirm that the sources used are correctly quoted and interpreted in the PDMR. All assumptions and data indicated in the PDMR and all relevant sources were checked and confirmed.
In essence TÜV NORD JI/CDM CP can confirm that the methodology was correctly applied following the requirements. All values in the PDMR 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, leakage and the expected net anthropogenic GHG removals by sinks are considered correct.

Related Findings: CAR 1, CAR 2, CL 4

3.4.7 Methodology Deviations

Not applicable.

3.4.8 Monitoring Plan

The monitoring plan presented in the PDMR complies with the requirement of the applied methodology, The audit team checked all parameters presented in the monitoring plan against the requirements of the methodology and corresponding tools,
Relevant parameters available at validation are listed in the PD. All relevant parameters that need to be monitored are listed in the PD as required by the methodology and corresponding tools.
The monitoring procedures as defined in the PDMR were reviewed by the audit team on paper and via interviews with technical staff /16/17/18/19/ as well as via observation during the re-measurements conducted/32/.

This information allows TÜV NORD JI/CDM CP to confirm that the proposed monitoring plan is feasible for the presented project activity. TÜV NORD JI/CDM CP concludes that the PP is able to implement the monitoring plan to report ex-post GHG net anthropogenic removals, which can also be verified,

Related Findings see CAR 02

FAR ID	02	Section no.	6.4	Date : 28/03/2022
Description of FAR				
As detected during the field inspection the harvesting activities are conducted by contractors using harvesters and not manually by the members of the local communities as described and planned in earlier descriptions/16/18/. This might results into a reduction of Job opportunities for the villagers/local communities and therefore in less income than expected. Furthermore, the intercropping practically takes only place in the first year after planting /16/17/18/19/. The original planning had foreseen intercropping during the first two years to "ensure that the plantations do not interrupt the traditional food production scheme of farmers and force them to practice shifting cultivation in new and forested areas"/01/. At the present assessment there was no indication that's the change described causes any negative effect on the local communities. Nevertheless, no substantial information could be provided, whether these practices will have future negative effects on the wellbeing of the communities in terms of food supply or income generation and therefore requires further monitoring.				

3.5 Non-Permanence Risk Analysis

In the following chapter assessments on the non-permanence risk rating as determined by the project proponent have been made:

Internal Risks:

Project Management		
Risk Factor	**DOE Assessment of justification and quality of documentation**	**Risk Rating**
a)	The project activity plants mainly Eucalyptus clones and Acacia. 87% of all areas are planted with Eucalyptus, another 5% are planted in mixture with Acacia and only 6% are planted solely with Acacia. Despite Eucalyptus is not a native species to Lao PDR it has a long history of plantation in Lao PDR. No GHG credits have been issued yet. The plantation is FSC certified/FSC/. This was confirmed during the onsite visit as well as via interviews held with local forestry authorities and document review	0 is accepted

	(https://www.fao.org/3/ac772e/ac772e0a.htm)	
b)	The project is implemented in collaboration with the landowners. Ongoing enforcement has not been witnessed during the on site visit. This was confirmed via interviews held with field staff, technical staff, landowners, local forestry authorities and the management team.	0 is accepted
c)	The management team includes members with term experience a plantation establishment and management in the country. This was confirmed via interviews conducted with field staff, technical staff, landowners, local forestry authorities and the management team.	0 is accepted
d)	The management team is located in the capital Vientiane which is approximately 5 hour drive from project areas. This was confirmed by document review and interviews conducted during the onsite visit with field staff, and the management team.	0 is accepted
e)	The management is supported by employees with senior knowledge of MRV projects, especially certification of afforestation projects. In addition, Burapha is supported by SilviCarbon, a consulting company with long term experience in forest carbon projects. A contract is provided/30/ https://www.silvicarbon.com/ This was confirmed by document review and interviews conducted during the onsite visit with field staff, and the management team.	-2 is accepted
f)	Adaptive management plan is in place. The PP has several SOP's, that document the procedures and lessons learned for different situations to be encountered along the process of plantation establishment and management; e.g: Environmental, Social and Safety Management System (ESSMS) which is a framework for implementing their responsibilities to international standards. The key principle underlying ESSMS is the adaptive: Plan, Do, Check, Act cycle/59/. This was confirmed by document review and interviews conducted during the onsite visit with field staff, and the management team.	-2 is accepted
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero,		-4 is accepted

Financial Viability		
Risk Factor	**DOE Assessment of justification and quality of documentation**	**Risk Rating**
a)	d) therefore not applicable	
b)	d) therefore not applicable	
c)	d) therefore not applicable	

d)	The cashflow analysis conducted by Burapha was approved by the BAFCO board which confirms the project being cashflow positive from 2022 onwards.12 The project aims to get a retrospective validation/verification and is therefore cashflow positive from the first sale of credits onwards, which is less than 1 year from the current risk assessment. The audit team checked the project cash flow/27/ and the documentation of a board meeting in 12/2021 /28/29/ and can confirm the breakeven point is 4 years or less from the current risk assessment, The quality of the documentation is deemed to be sufficient to evaluate the risk correctly.	0 is accepted
e)	d) therefore not applicable	
f)	d) therefore not applicable	
g)	d) therefore not applicable	
h)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven. The audit team checked the project cash flow/27/ and the documentation of a board meeting in 12/2021 /28/29/ and confirms that Burapha has secured more than 80% of the funding for the project. The quality of the documentation is deemed to be sufficient to evaluate the risk correctly.	0 is accepted
i)	This mitigation does not apply at the time of current risk assessment since the project has already reached breakeven. The audit team checked the project cash flow/27/ and the documentation of a board meeting in 12/2021 /28/29/ and can confirm the breakeven point is 4 years or less from the current risk assessment, The quality of the documentation is deemed to be sufficient to evaluate the risk correctly.	-2 is accepted
Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)] Total may not be less than zero,		0 is accepted

Opportunity Cost		
Risk Factor	**DOE Assessment of justification and quality of documentation**	**Risk Rating**

a)	f) therefore not applicable	
b)	f) therefore not applicable	
c)	f) therefore not applicable	
d)	f) therefore not applicable	
e)	f) therefore not applicable	
f)	The current baseline is identified as the continuation of swidden agriculture (see chapter 3.4, PDMR) due to the high barriers imposed to commercial forestry plantations. This agriculture practice is mainly subsistence driven. Positive impacts on communities can be checked in ESIA report, chapter 9: Social impacts/08/. The Net present value of mountain rice is around 1.3m USD. The project generates a NPV of 10m USD and more. This was confirmed by document review/08/47/ and interviews conducted with the management team.	-4 is acceptable
g)	Not applicable – no mitigation in place	-
h)	Not applicable – no mitigation in place	
i)	Not applicable – no mitigation in place	
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)] Total may be less than 0,		-4 is acceptable

Project Longevity		
DOE Assessment of justification and quality of documentation		
a)	The project longevity is expected to be 50 years. No legal binding agreement exists; however land lease and concession agreements are issued over this period of time (30 years + 20 years option). Thus, at the time of current risk assessment there is no reason to doubt the long-term sustainable outcome of the project activity. This was confirmed by document review/13/15/ and interviews conducted with the management team during the audit.	14 is acceptable
b)	Not applicable – no legal requirement in place	
Total Project Longevity (PL) May not be less than zero		14 is acceptable

Internal Risk Outcome

Total Internal Risk (PM + FV + OC + PL) Total may not be less than zero,	6

External Risks:

Land Tenure and Resource Access/Impacts		
Risk Factor	**DOE Assessment of justification and quality of documentation**	**Risk Rating**
	Are the ownership and resource access/use rights held by the same of different entities?	
a)	Not applicable	
b)	Ownership and land resource access/use rights are held by different entities. This was confirmed by document review/15/ and interviews conducted with landowners, community members, local forestry authorities and the management team during the audit.	2 is acceptable
c)	PPs policy states that no land is acquired that is subject to competing land claims, as well as circumstances where there is outright refusal from the owner / occupier to convert to plantations. However, currently more than 5% of the acquired land has land disputes. 'Disputes' mean in this context, competing customary land use claims in state owned production forest areas. It is the lands team responsibility to resolve competing claims in consultation with villagers, village authorities and government representatives. This was confirmed by interviews conducted with landowners, community members, local forestry authorities and the management team during the audit.	10 is acceptable
d)	The PP recognizes the rights and interests of local communities as the traditional managers of their lands, particularly those that utilize land in State owned production forest areas. Burapha engages with the government and directly with villages regarding the land concession granting. Nevertheless, due to the high number of different landowners' disputes over access/use rights (or overlapping rights) cannot be avoided completely. This was confirmed by observations made during the field visit and by interviews conducted with landowners, community members, local forestry authorities and the management team during the audit.	5 is acceptable
e)	Not applicable, WRC projects only	
f)	Mitigation: Project area is protected by legally binding commitment (eg, a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period. Not applicable as the Project area is not protected by legally binding commitment.	

	A protected area is a clearly defined area recognized, dedicated and managed through legal or other means to achieve the long-term conservation of nature with associated ecosystem services and cultural values, including national parks, nature reserves, wilderness areas, wildlife management areas and landscape protected areas, which may be managed by government, communities or other entities.	
g)	Mitigation: Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims The PP does not acquire any land without proper evidence of ownership / customary use. However, as stated in the land acquisition manual/10/11/12/, support is provided to all farmers and individuals, who have troubles bringing the correct evidence for land ownership. The Burapha model strengthens land tenure rights. Burapha works together with the communities to resolve any pending issues and disputes, as well as grievances/57/58/. See also CL08 This was confirmed by observations made during the field visit and by interviews conducted with landowners, community members, local forestry authorities and the management team during the audit.	-2 is acceptable
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)] Total may not be less than zero,		15 is acceptable

Community Engagement		
Risk Factor	**DOE Assessment of justification and quality of documentation**	**Risk Rating**
a)	Every farmer whose lands join and participate in the project is doing so after a thorough process of consultation and consent seeking, finalized by the assignment of the land lease agreement. Therefore, there is 100% consultation of those living within the project area who are reliant on the project area,	0 is acceptable
b)	Not applicable	
c)	The project generates net positive impacts on the social and economic well-being of the participating smallholders. This is demonstrated by the ESIA/08/ and the community Benefit Assessment Report/56/. This was confirmed by document review/08/56/ observations made during the field visit and by interviews conducted with landowners, community members local forestry authorities and the management team.	-5 is acceptable
Total Community Engagement (CE) [where applicable, (a + b + c)]		-5

Total may be less than zero,	

Political Risk		
Risk Factor	**DOE Assessment of justification and quality of documentation**	**Risk Rating**
a)	Not applicable	
b)	Based on the WGI data *http://info.worldbank.org/governance/wgi/index.asp* The mean governance score of all 6 worldwide governance indicators of the years 2016 – 2020 is -0.75 The source is provided by the VCS Standard and thus adequate. The calculation is correct/38/.	4 is acceptable
c)	Not applicable	
d)	Not applicable	
e)	Not applicable	
f)	Mitigation: Country implementing REDD+ Readiness or other activities such as: a) The country is receiving REDD+ Readiness funding from the FCPF, UN-REDD or other bilateral or multilateral donors b) The country is participating in the CCBA/CARE REDD+ Social and Environmental Standards Initiative c) The jurisdiction in which the project is located is participating in the Governors' Climate and Forest Taskforce d) The country has an established national FSC or PEFC standards body e) The country has an established DNA under the CDM and has at least one registered CDM A/R project Lao PDR is registered under the REDD+ Readiness fund of the FCPF and completed its R-package in 2018. This was confirmed by the audit team by internet research.	-2 is acceptable
Total Political (PC) [as applicable ((a, b, c, d or e) + f)] Total may not be less than zero,		2 is acceptable

External Risk Outcome	
Total External Risk (LT + CE + PC)	12 is acceptable

Total may not be less than zero,	

Natural Risk:

Natural Risk: Fire DOE Assessment of justification and quality of documentation	
Significance	Transient (full recovery of lost carbon stocks expected within 10 years of any event), due to its 7.5 year rotation cycle the carbon stock is considered to fully recover within 10 years from the wildfire event. An insignificance rating is adequate and acceptable
Likelihood	The PP implemented many mitigation measures, such as fire breaks, etc. However, since shifting cultivation is a common practice in the provinces of the project region and adjacent to plantations the fire risk occurs each year at land preparation time. Same applies to Lightning strikes A less than every 10 years rating is adequate and acceptable
Score (LS)	2 is acceptable
Mitigation	A variety of mitigation measures has been applied and describe. The record of incidences happening, the monitoring over incidences, as well as affected areas can be retrieved from the fire report, recording all data between 2016-2022. The incidence of fire is strongly correlated with climatic conditions. A mitigation rating of 0,25 is adequate and acceptable.

Natural Risk: Pest and Disease DOE Assessment of justification and quality of documentation	
Significance	Since Eucalypts are planted in large monocultures the occurrence of pests and diseases is expected to occur. However, due to control measures, such as selecting appropriate genetic material and continued forest management it is expected that less than 5% of the carbon stock will be affected by pests and diseases, albeit the likelihood is frequent to occur. An insignificance rating is adequate and acceptable,
Likelihood	Since Eucalypts are planted in monocultures it is estimated that pest and diseases occur **less than every 10 years**. However, have no major impact.
Score (LS)	2 is acceptable
Mitigation	A robust tree improvement strategy has been implemented to develop genetic material with improved disease resistance. Pest and disease is being monitored. A mitigation rating of 0,50 is adequate and acceptable,

Natural Risk: Extreme Weather DOE Assessment of justification and quality of documentation	
Significance	Extreme weather can and will occur in Lao PDR. The risk for extreme heat is moderate, while the risk for cyclones is increasingly high. However, in case of an extreme weather event carbon stocks will recover quickly. Therefore, the significance is estimated to be **transient**.
Likelihood	The frequency is expected to be quite high (every 10 to 25 years), since the hazard assessment of "thinkhazard.org" encompasses significance and frequency in one factor.
Score (LS)	1 is acceptable
Mitigation	0,25 The focus of Burapha has been to continuously develop clones that adapt to extreme conditions. This program is outlined in the Timber Plantations Strategy Polices and Plans/07/. Burapha has also begun testing dry season planting using water crystals to give trees a head start. This program only began this – a rather wet year – so the program is still in its very early stages.

Natural Risk: Geological Risks DOE Assessment of justification and quality of documentation	
Significance	Not applicable
Likelihood	Not applicable
Score (LS)	0 is acceptable
Mitigation	Not applicable

Natural Risk: Other Risks DOE Assessment of justification and quality of documentation	
Significance	No other natural risks to the project activities and associated carbon removals are anticipated,
Likelihood	Not applicable
Score (LS)	0 is acceptable
Mitigation	Not applicable

Score for each natural risk applicable to the project (Determined by (LS × M)

Fire (F)	0,5
Pest and Disease Outbreaks (PD)	1,0
Extreme Weather (W)	0,25
Geological Risk (G)	0,0
Other natural risk (ON)	0,0
Total Natural Risk (as applicable, F + PD + W + G + ON)	1,75

Overall Risk Rating:

Risk Category	Rating
Internal Risk	6,0
External Risk	12,0
Natural Risk	1,75
Overall Risk Rating (a + b + c)	20,0
Applied is a risk rate of	20 %

In total the project faces certain risks. Where possible, mitigation measures are in place.
This is validation and 1st verification, and the overall impression of the plantation and management is good and professional. This impression is also confirmed by the annual FSC-Audits/FSC/.
Thus, the audit team concludes that the applied risk score of 20% is adequate for the project activity,

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is completely operational and the same has been confirmed during the on-site as well as via interviews with PP, Consultant, Field-Officer, Landowners and the local forestry authorities.

The project is implemented according to the description presented,

The eligible area for the First Project Instance is 2946 ha and involves areas with the planting date from 2016 to 2020. Considered for the carbon calculation are only areas planted from 2016 - 2019 covering a total area of 2210 ha. The differences are areas planted in 2020 which were not measurable because of the small height and diameter off the trees. Hence they were excluded from the present assessment.

TÜV NORD JI/CDM CP confirms, through the interviews conducted in the four communities/16/17/18/19/ and with forestry authorities/20/, visual inspection in the field, assessment shapefiles and of publicly available satellite pictures as well as a travel through the project areas for four days, that all physical features of the proposed VCS project activity including data collecting, analysing and storage systems have been implemented in accordance with the PD.

TÜV NORD JI/CDM CP confirms, to the best of his knowledge, that the GHG emission reductions generated by the project have not become included in an emissions trading program or any other mechanism that includes GHG allowance trading. Furthermore, confirms that the project has not received or sought any other form of environmental credit, or has become eligible to do; and that the project has not participated or been rejected under any other GHG programs before the validation/verification.

The implementation status of the project is described in detail in the PDMR and was confirmed in the course of the on-site inspection as well as follow-up sessions with the project consultants.

Based on the before mentioned, TÜV NORD JI/CDM CP concludes that the project has been implemented as described in the project description,

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

Compliance of the Monitoring Plan with the Monitoring Methodology:
The monitoring plan provided in the joined project design document & monitoring report/PDMR/ is in accordance with the approved methodology AR-ACM0003 as well as all applicable tools, applied by the VCS project activity.

Compliance of the Monitoring with the Monitoring Plan:
The monitoring has been carried out in accordance with the monitoring plan presented in the joined project design document & monitoring report/01/. All parameters contained in the monitoring plan were reviewed by the audit team respectively and found to be monitored according to monitoring plan.

The monitoring plan is provided consisting of different processes that as a conjunction represent the monitoring system of the project. The following processes/monitoring are mentioned:

Geographical delimitation of project boundary:
Each Forest Stand in each FMU is delineated according to a described SOP. Boundaries are reviewed with field staff and villagers. The boundaries of each sub-compartment and compartment of plantation is tracked and recorded using a GPS device. The overall plantation boundaries are continuously re-assessed and updated with remote sensing techniques and satellite imagery. The results are shapefiles/09/ that have been provided and assessed in depth in the field by the audit team.

Stratification and update of effective areas:

According to the monitoring plan, the forest stands are stratified according to political boundaries, plantation age and species planted. This classification is re-evaluated on a yearly basis. This is the smallest unit and used for all silvicultural measures.

Sampling design, plots selection and location:
The PP uses a network of Permanent Sample Plots (PSPs) to conduct its inventories for the monitoring of plantation growth and yield estimations. The PSP network is distributed randomly across the plantation area and covers most of the compartments with an area larger than 2.5 ha. The PSPs network is considered representative and provides sufficient data for modelling growth rates and forest attributes, such as survival rates, forest health, etc. All PSPs are measured once a year/6/.
The network has on average one fixed radius plot (r=17.84 m, area=0.01 ha) per 15 hectares, which for the purposes of estate modelling is adjusted to projected area using the measured slope.
The eligible area of project activity is FSC certified. The sampling was based on the communities involved in the project activity. Out of the 42 villages/communities included in the project area a short list of 10 was randomly selected. Out of this short list the audit team selected 4 villages for the onsite visit, assuring to visit 4 different districts and including areas where harvesting operations took place. The number of villages were calculated following the sampling approach described in the FSC Standard FSC-STD-20-007 for "Number of FMUs or Group Members < 100ha sampled in Main Evaluation $X = 0.6*\sqrt{y}$. Hence, four village sites were visited. At each village site, 1 Permanent Sample Plot was reassessed/32/. Due to the homogeneity of the plantations, the size of the sample plots, and the professional assessment teams the number of 4 PSPs was considered to be meaningful.

Emissions due to changes in carbon stocks in deadwood, soil organic carbon are not monitored as they are estimated based on default values.

Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

The required data for the monitoring was available, and the parameters were monitored in accordance with the registered monitoring plan.
The data collection was conducted with an electronic calliper (DBH; The diameter at breast height (1.3 m from the ground)) and a Vertex (Height of tree). The calibration of the Vertex could be confirmed during the field visit. A detailed description of the data generation, storing, processing and aggregating, collating and reporting is described in the MR and the corresponding /24/. During the verification the data collection, processing, collecting and reporting was demonstrated and discussed in depth.
In the following table the assessment of the actively monitored parameters are assessed.

Assessment of ex-post determined parameters

Parameter	Description	Value applied	Assessment
DBH	The diameter at breast height (1.3 m from the ground)	*See: /32/data 2020*	DBH is measured with electronic caliper.

			4 PSPs were remeasured. The same measuring method was used for this. The audit team observed the measurements and found them to be in accordance with the monitoring plan. A direct comparison of the values measured was not expedient as the time difference between the two measurement events was about 11 months. Nevertheless, no indication for an significant measurement error was detected Values remeasured see: *See: /32/data 2021*
H	Height of tree planted	*See: /32/data 2020*	Tree height is measured with a Vertex. 4 PSPs were remeasured. The same measuring method was used for this. The audit team observed the measurements and found them to be in accordance with the monitoring plan. A direct comparison of the values measured was not expedient as the time difference between the two measurement events was about 11 months. Nevertheless,no indication for an significant measurement error was detected Values remeasured see: *See: /32/data 2021*
n_i	Number of trees	*See: /32/data 2020*	Number of trees is recorded by the electronic caliper. 4 PSPs were remeasured. The same measuring method was used for this. The audit team observed the measurements and found them to be in accordance with the monitoring plan. A direct comparison of the number of trees was conducted; no indication for an significant measurement error was detected Values remeasured see: *See: /32/data 2021*

The data collected during the verification, replicating the exact same methodology as described in the MR and subsequent documents was subject to a data were the subject of an expert comparison. The differences in the measurement results can be plausibly explained by the tree growth.

Baseline emissions were quantified as described in section 3.4.6. / Quantification of baseline emissions.

Project emissions were quantified as described in section 3.4.6. / Quantification of project emissions: Carbon stock changes of trees and shrubs are estimated applying the AR-Tool 'A/R Methodological tool: Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities' (Version 04.1).

Tree biomass is estimated based on equation 6 and 8 of Appendix 1 of the tool,

Mean carbon stock in trees within the tree biomass estimation strata and the associated uncertainty are estimated by applying equations 12-15 of the tool

A description of the quantification method is provided in the PDMR and in detail in the Carbon Calculation spreadsheet, where all steps and formula applied can be traced/6/.

The audit team confirms that the methods and formulae used to estimate the baseline and project emissions are appropriate. The calculations were done in accordance with the methods and formulae described in the monitoring plan and applicable methodology.

The audit team confirms that the monitoring report includes all required and relevant parameters. The parameters have been measured at the intervals required by the applied methodology and monitoring plan.

The audit team confirms that all the assumptions, emission factors and default values have been correctly justified. All the emission factors and default values are explicitly mentioned in the monitoring report.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

Among several evidence items submitted, the following relevant and reliable evidence material was used by the audit team during the verification process:

- GIS files/09/
- Project database/Raw data/45/
- Calculation spreadsheets (including raw data/Calculation of uncertainty)/06/
- Observations during the field visit by the audit team/16/17/18/19/

Sufficient evidence covering the full verification period in the required frequency is available to validate the figures stated in the final joined project design document & monitoring report/PDMR/. The source of the evidence was discussed in chapter 2 of this report, Specific cross-checks have been done in cases that further sources were available.

5 VALIDATION AND VERIFICATION-CONCLUSION

Burapha Agroforestry Co., Ltd. has commissioned the TÜV NORD JI / CDM Certification Program to carry out the joined validation and verification of the First Project Instance of the grouped project Afforestation in Eucalyptus and Acacia plantations for Burapha Agroforestry Co., Ltd. The validation and verification was performed based on VCS Version 4.2 requirements as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the joined project design document & monitoring report and the subsequent follow-up interviews have provided TÜV NORD with sufficient evidence to determine the fulfilment of stated criteria.

The proposed VCS project activity consists of the establishment of high-quality timber plantations, mostly Eucalyptus ssp. with minor shares of Acacia auriculiformis for commercial use. The approved methodology AR-ACM0003 “AR Large scale - Afforestation and reforestation of lands except wetlands” (version 2.0) is applied to quantify the GHG reductions and/or removals achieved in this project.

In the course of the validation 2 Corrective Action Requests (CARs), 8 Clarification Request (CL) were raised and successfully closed. Two Forwarded Action Requests (FARs) were raised.

The review of the project design documentation and additional documents related to baseline and monitoring methodology and subsequent background investigation have provided the TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail TÜV NORD CERT GmbH confirms:

- A reasonable level of assurance has been applied,
- All data and information used for ex-ante calculation of emission reductions is of projected and/or hypothetical nature,
- The project is in line with all relevant host country legislation incl, its GHG assertions, where applicable,
- The project additionality is sufficiently justified in the joined project design document & monitoring report,
- The monitoring plan is transparent and adequate,
- The calculation of the project emission reductions and/or removals is carried out in a transparent and conservative manner, so that the calculated emission removals of 604,015 tCO2e are most likely to be achieved within the 20 years crediting period,
- All operations of the project are implemented and installed as planned and described in the validated project description,
- The monitoring plan is in accordance with the applied approved methodology i,e, AR-ACM0003 Version 2.0.
- The monitoring system is in place and functional. The project has generated GHG removals,

Verification period: From 31/05/2016 to 22/12/2020 (including both days)

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)	Buffer pool allocation	VCUs eligible for issuance
2016	36.792	30.487	-	-6.304	-	0
2017	23.341	47.147	-	23.806	4.761	19.045
2018	14.331	56.107	-	41.777	8.355	33.421
2019	6.211	57.491	-	51.281	10.256	41.025
2020	0	57.491	-	57.491	11.498	45.993
Total	80.674	248.724	-	168.050	33.610	**134.440**

The conclusions of this report shows that the project, as it was described in the project description, is in line with all criteria applicable for the validation against the VCS standard Version 4,2 without any qualifications or limitations,

Augsburg, 04-May-2023

Martin Seitz

TÜV NORD JI/CDM Certification Program
Validation Team Leader

Hanover, 04-May-2023

Alexandra Nuske

TÜV NORD JI/CDM Certification Program
Final Approval

APPENDIX 1: ABBREVIATIONS

Abbreviations	Full texts
ABMS	Activity Baseline and Monitoring Survey
ARR	Afforestation, Reforestation and Revegetation
AFOLU	Agriculture, Forestry and Other Land Use
BAU	Business as usual
CAR	Corrective Action Request
CCB	Climate, Community & Biodiversity
CCBA	Climate, Community & Biodiversity Association
CDM	Clean Development Mechanism
CL	Clarification Request
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
CP	Certification Program // Crediting Period
DNA	Designated National Authority
EB	CDM Executive Board
ER	Emission Reductions
ETS	Emission Trading Scheme
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GMO	Genetically modified organism
GS	Gold Standard
HCVs	High Conservation Values
IFM	Improved Forest Management
IPCC	Intergovernmental Panel on Climate Change
JNR	Jurisdictional and Nested REDD+
MIS	Management Information System

MP	Monitoring plan
MR	Monitoring Report
NDRC	National Development and Reform Commission
NPRA	Non-Permanence Risk Analysis
PD	Project Description
PDMR	Joint Project Description and Monitoring Report
PP	Project Participant
PRA	Participatory Rural Appraisal
QC/QA	Quality control/Quality assurance
REDD	Reduced Emissions from Deforestation and Degradation
SALM	Sustainable agricultural land management
SOC	Soil Organic Carbon
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit
VVB	Validation/Verification Body

APPENDIX 2: REFERENCES

Reference	Document
/01/	01_2022-04-04_PD_Monitoring_Burapha_VCS_v5._APi_final
/02/	02_2022-04-04_Burapha_Risk-Report_PD-M1_v6_final
/03/	02_2022-04-04_Burapha_Risk-Report_PD-M1_v6_final
/04/	04_20211124_Auditplan_Burapha_final
/05/	05_2022-03-31_Ex Ante - 1st project instances
/06/	06_2022-03-31 Burapha Carbon Inventory M1-V5_APi
/07/	07_Burapha_Timber_Plantations_Strategy_Policies_Plans_Protocols_Final.pdf
/08/	08_ ESIA, 2016
/09/	27_Project shapefiles_2022-03-31
/10/	10_2016_BAFCO_OM_LandAcq_ES Review2
/11/	11_2021-11-29_New BAFCO_OM_LandAcq_hwn comments
/12/	12_2019_ESAP_1.1, 1.3_BAFCO Land Acquisition Operations Manual_190326_FI-NAL_v2
/13/	13_ Land Contract example_1007016900.18.017
/14/	14_2367_Extension approval_Verra_Burapha

Reference	Document
/15/	15_BAFCO2356_Summary on Review of Land Lease ^0 Concession Contracts_MS Commments_18.01.2022
/16/	16_BAFCO2356_Burapha field check_Questions_Ban Houana
/17/	17_BAFCO2356_Burapha field check_Questions_Ban Houay Dua
/18/	18_BAFCO2356_Burapha field check_Questions_Ban Phonmouang
/19/	19_BAFCO2356_Burapha field check_Questions_Nadi
/20/	20_BAFCO2356_Consultations with District Authorities
/21/	21_Salwood, FIP Concept IFC Draft Feb 11
/22/	22_2018-09 UNIQUE Laos Carbon feasibility Final
/23/	23_Burapha Investment timetable 210916
/24/	24_BAFCO PSP Procedures (20220207) incl. QAQC
/25/	25_BAFCO_ESSMS_Manual_200312_Final_V1.0
/26/	26_10. Additionality
/27/	27_Financial Model V8.5.1 No LDN Money - used for Board presentation 2021 12 03 (1)
/28/	28_3.12.2021 BAFCO Board Meeting Minutes_signed
/29/	29_Board Meeting Presentation December 3 2021

Reference	Document
/30/	30_VCU Sale and Option Purchase Agreement - Burapha-Sil(1)
/31/	31_Minutes of Meeing Ban Na-17.03.2022
/32/	32_Fire monitoring report 2016 – 2022: fire_report_20220404.xlsx
/33/	45_Project Database 2022-03-31
/34/	34_Ban Lapueng, A Case Study
/35/	35_Lenders base case v7b (carbon cert)
/36/	36_2021 Forestry operational plan
/37/	37_PSP-data
/38/	38_2022-03-07_WGI_LaoPDR_16-20
/39/	39_Attendance Register_BAFCO2356_Register paper for Ban Huana
/40/	40_Attendance Register_BAFCO2356_Register paper for Ban Houaydua
/41/	41_Attendance Register_BAFCO2356_Register paper for Ban Nadi1
/42/	42_Attendance Register_BAFCO2356_Register paper for Ban Nadi2
/43/	43_Attendance Register_BAFCO2356_Register paper for Ban Phonmuang
/44/	44_ Carbon Supporting Letter
/45/	45_Project Database 2022-03-31

Reference	Document
/46/	46_Stands and inventory for carbon 202111
/47/	47_20220330, NPV of mountain rice growing
/48/	48_Burapha Summary list of investors that declined
/49/	49_Burapha, Investment analysis plantation only, 210916
/50/	50_SilviLao AB, styrelse 2014-11-13, Attachment 4 (3)
/51/	51_Selected villages
/52/	52_BAFCO2356_Summary on Review of Land Lease & Concession Contracts_Rev1-1
/53/	53_Burapha Land Contract List_Sample_MS
/54/	54_Lao PDR ForestReference Emission Level, 2018
/55/	55_Voluntary National Review_LAO, 2018
/56/	56_Burapha_BenefitsAssessment_FinalReport_EMC
/57/	57_1.3_BAFCO_SOP_COMMUNITY ENGAGEMENT AND COMMUNICATION 190129_FINAL
/58/	58_BAFCO_SOP_GRIEVANCE MANAGMENT AND DISPUTE RESOLUTION_190129_FINAL
/59/	59_BAFCO_ESSMS_Manual_200312_Final_V1.0 (3)

Reference	Document
/60/	60_Burapha Summary list of investors that declined
/61/	61_Project description MIGA
/62/	62_SilviCapital Presentation -September 2014 Summary
/63/	63_SilviCapital Burapha Agroforestry 2012 Final Draft 19 Mars
/64/	64_Finn Fund, Development impact of Finnfund investments in 2016
/65/	65_LaoPDR_ERPD_FinalDraftMay.2018-Clean
/66/	66_lao_plantation_policy_framework
/67/	67_Lao PDR Forest Plantation Policy Background Paper
/68/	68_PDD_v6 18May2015(1)
/69/	69_Carbon Assessment Vegetation_Lao_2011
/70/	Barton, C. V., & Montagu, K. D. (2006). Effect of spacing and water availability on root: shoot ratio in Eucalyptus camaldulensis. Forest Ecology and Management, 221(1-3), 52-62.
/71/	Fabião, A., Madeira, M., Steen, E., Kätterer, T., Ribeiro, C., & Araújo, C. (1995). Development of root biomass in an Eucalyptus globulus plantation under different water and nutrient regimes. Plant and Soil, 168(1), 215-223.
/72/	IPCC (2006), Guidelines for National Greenhouse Gas Inventories - Volume 4, Agriculture, Forestry and Other Land Use, Chapter 4 Forestry

Reference	Document
/73/	ISLAM, M. A., RAHMAN, R., & HOSSAIN, M. K. (2019). Effect of container and potting media on raising quality seedlings of Acacia auriculiformis in the nursery. Asian Journal of Agriculture, 3(01).
/74/	74_2021-03-26_Mail Verra Public commenting period
/75/	75_Forestry License_No.1459, Date 7 April 2022-2023
/76/	76_Lao-People-s-Democratic-Republic-Northern-Laos-Emission-Reductions-Payments-Project
/77/	77_BAFCO NDVI Study Final Draft
/78/	78_2016-2020_SMA_wetland_V20220707
/79/	79_A3L_Phonngam PFA_With_SMAs_Wetlands
/80/	80_A3L_Houaydua_With_SMAs_Wetlands
/81/	81_SOP_PR404 - Special Management Areas V2.0
/82/	82_Planted_16-20_per land type and owners
/83/	83_Certificate of Forestry ESIA 3000Ha_No1977_MONR
/84/	84_Acacia mangium-benefits and threats_2019
/85/	85_Acacia Plantation Development and the Configuration of Tree_2021
/86/	86_IFC Upstream Level (environmental and social) Report Draft, Rina Consulting April 2022

Reference	Document
/FSC/	https://app.powerbi.com/view?r=eyJrIjoiN2U3NGMyNWEtZTAxNS00MzVhL-WExNmMtOThhZjdiYjQ4MWNkIiwidCI6IjEyNGU2OWRiLWVmNjUt-NDk2Yi05NmE5LTVkNTZiZWMxZDI5MSIsImMiOjI9
/VERRA/	https://verra.org/
/GS/	https://www.goldstandard.org/
/CDM/	https://cdm.unfccc.int/
/ACR/	https://americancarbonregistry.org/
/AOR/	https://www.csaregistries.ca/albertacarbonregistries/home.cfm
/CAR/	https://www.climateactionreserve.org/
/ICAP/	https://icapcarbonaction.com/en/

APPENDIX 3: INTERVIEWS

Reference	Mean		Name	Organisation / Function
/IM01/	Visit	☒ Mr, ☐ Ms,	Martin Forsen	Burapha/CEO
/IM02/	Visit	☒ Mr, ☐ Ms,	Jan-Willem Martens	SilviCarbon/Consultant
/IM03/	Visit	☒ Mr, ☐ Ms,	Chris Smithies	Earth Systems/Local expert
/IM05/	Visit	☒ Mr, ☐ Ms,	Bounta Nuanvixay	Earth Systems/Local expert
/IM06/	Visit	☒ Mr, ☐ Ms,	Cliff Massey	Burapha/CSER Manager
/IM07/	Visit	☒ Mr, ☐ Ms,	Luke McWhriter	Burapha/Forest Manager
/IM08/	Visit	☒ Mr, ☐ Ms,	Francois Guegan	Burapha/Land Manager
/IM09/	Visit	☒ Mr, ☐ Ms,	John Rabie	Burapha/A-CEO
/IM10/	Visit	☐ Mr, ☒ Ms,	Cameron Larkin	Burapha/OHS Manager
/IM11/	Visit	☒ Mr, ☐ Ms,	Oloth Sishounthone,	Deputy District Governor
/IM12/	Visit	☒ Mr, ☐ Ms,	Phounseng Kendala,	Head of District Office of Natural Resources and Environment;
/IM13/	Visit	☒ Mr, ☐ Ms,	Boun Gnang Vongvilaxay,	Head of District Office of Agriculture and Forestry;
/IM14/	Visit	☒ Mr, ☐ Ms,	Sopha Thammanivong,	Head of District Administration Office

Reference	Mean		Name	Organisation / Function
/IM15/	Visit	☒ Mr, ☐ Ms,	Bounpheng Thepvilaychit	Vice Village Chief
/IM16/	Visit	☒ Mr, ☐ Ms,	Khamkone Xayalath	Village Security Volunteer
/IM17/	Visit	☒ Mr, ☐ Ms,	Khan Siphanthala	Village representative
/IM18/	Visit	☒ Mr, ☐ Ms,	Khamsouk Chandala	Village Representative
/IM19/	Visit	☒ Mr, ☐ Ms,	Samly Sonedala	Village Security Volunteer
/IM20/	Visit	☒ Mr, ☐ Ms,	Seung Inthavong	Village Representative
Huana Village				
/IM21/	Visit	☒ Mr, ☐ Ms,	Thavone Khamphanseng-many	Village Chief
/IM22/	Visit	☒ Mr, ☐ Ms,	Phonesy Phonsena	Vice Village Chief
/IM23/	Visit	☒ Mr, ☐ Ms,	Khamdy Phimmadith	Village Elder
/IM24/	Visit	☒ Mr, ☐ Ms,	Bounthan Si-ounheuan	Village Security Volunteer
/IM25/	Visit	☒ Mr, ☐ Ms,	Phommy Vilaysack	Village Security Volunteer
/IM26/	Visit	☒ Mr, ☐ Ms,	Khamphai Xaybouakham	Village Security Volunteer
Phonmuang Village				

Reference	Mean		Name	Organisation / Function
/IM27/	Visit	☒ Mr, ☐ Ms,	Xiengkhoun Phommeuang	Village Chief
/IM28/	Visit	☒ Mr, ☐ Ms,	Khamlek	Vice Village Chief
/IM29/	Visit	☒ Mr, ☐ Ms,	Phengsone Tava	Vice Village Chief
/IM30/	Visit	☒ Mr, ☐ Ms,	Keovae	Village Representative
/IM31/	Visit	☒ Mr, ☐ Ms,	Khampheng Sommalath	Village Elder
/IM32/	Visit	☒ Mr, ☐ Ms,	Pheng Xayavong	Village Youth Representative
/IM33/	Visit	☒ Mr, ☐ Ms,	Khampheng Khonesavanh	Village Security Volunteer
Nadi Village				
/IM34/	Visit	☒ Mr, ☐ Ms,	Bounlieng Thammavong	Vice Village Chief
/IM35/	Visit	☒ Mr, ☐ Ms,	Tha	Village Representative
/IM36/	Visit	☒ Mr, ☐ Ms,	Viengsitha	Village Representative
/IM37/	Visit	☐ Mr, ☒ Ms,	Orn	Village Representative
/IM38/	Visit	☐ Mr, ☒ Ms,	Phien	Village Representative
/IM39/	Visit	☐ Mr, ☒ Ms,	Dong	Village Representative

Reference	Mean		Name	Organisation / Function
/IM40/	Visit	☐ Mr, ☒ Ms,	Pork	Village Representative
/IM41/	Visit	☒ Mr, ☐ Ms,	Phit Khamkhiem	Vice Village Chief
/IM42/	Visit	☒ Mr, ☐ Ms,	Bouavanh Arthkeo	Village Chief
/IM43/	Visit	☒ Mr, ☐ Ms,	Samphath Xayasane	Village Land Management Volunteer
/IM44/	Visit	☒ Mr, ☐ Ms,	Viengphone	Village Representative
/IM45/	Visit	☐ Mr, ☒ Ms,	Chieng	Village Representative
/IM46/	Visit	☒ Mr, ☐ Ms,	Bansy	Village Representative
/IM47/	Visit	☒ Mr, ☐ Ms,	Yorth	Village Representative
/IM48/	Visit	☒ Mr, ☐ Ms,	Pheng	Village Representative
/IM49/	Visit	☐ Mr, ☒ Ms,	Lattana	Village Representative
/IM50/	Visit	☒ Mr, ☐ Ms,	Alexander Pinkwart	Consultant, Unique Forestry and land use GmbH
/IM51/	Call	☒ Mr, ☐ Ms,	Matthias Seebauer	Consultant, Unique Forestry and land use GmbH

APPENDIX 4: LIST OF FINDINGS

CL ID	01	Section no.	1.7/1.8	Date : 18/01/2022
Description of CL				
Provide following information concerning ownership: 1. Former versions of the SOPs for land demarcation/acquisition 2. Land contracts with following IDs: a. 1007016900.18.017 b. Contracts for parcels visited 3. Evidence of the legal ownership of the carbon rights, (e.g., Statement by DNA etc.) 4. Concerning delay of validation within five years from project start date: Provide the confirmation letter from Verra, dated 20.04.2021, that the period is extended till 20 April 2022				
Project participant response				Date : 28/02/2022
Land Acquisition Manual Version 2 2016 provided. Former and the newest version of the SOP "land demarcation/acquisition" has been added to the folder: Supporting Documentation – internal documents – 7. land survey. The requested concession agreements for 1007016900.18.017 have been added to the supporting documentation - – internal documents – 7. land survey. - Land contracts 1007016900.18.017 The evidence about the legal ownership of carbon rights is still ongoing. The extension letter has been added to the Project start date folder.				
Project participant response				Date : 31/03/2022
The evidence about the legal ownership of carbon credits has been provided.				
Documentation provided by project participant				
☒	Changes in the PD	Section(s): 1.7/1.8		New version No.:
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
DOE assessment				Date: 21/03/2022
1. Two former versions of the "Land Acquisition Manual Version" dated 2016 and 2017 have been provided /10/11/				

2. The missing contracts have been provided /13/. The contracts were checked by the local expert team and found in compliance with the standard requirements and local legislation /15/.
3. The evidence about the legal ownership of carbon rights is still pending. Further evidence is required.
4. The confirmation letter from VERRA been provided /14/.

DOE assessment	Date: 01/04/2022
The evidence about the legal ownership of carbon credits has been provided/44/.	
Conclusion	☒ Additional action should be taken (finding remains open) ☐ The finding is closed

CL ID	2	Section no.	1.11	Date : 18/01/2022

Description of CL

According to the field visits intercropping takes place only in the first year after initial planting, harvesting activities are mainly conduct by harvesting machines. Update the project description according to the actual activities and the consequences resulting out of it.

Project participant response	Date : 28/02/2022

The PD has been updated in section 1.11. Harvesting machines have been included as the main way of harvesting. Furthermore, the agroforestry/intercropping scheme has been adjusted to: Farmers are allowed to intercrop during the first 2 years of the rotation, however mostly only use the first year.

Documentation provided by project participant

☒	Changes in the PD	Section(s): 1.11	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: 21/03/2022

The PD has been adapted accordingly. As detected during the field inspection the harvesting activities are conducted by contractors using harvesters and not manually by the members of the local communities as described and planned earlier /16/18/. This results into a reduction of work possibilities conducted by the villagers and therefore in less income than expected.

Furthermore, the intercropping practically takes only place in the first year after planting /16/17/18/19/. The original planning had foreseen intercropping during the first two years to "ensure that the plantations do not interrupt the traditional food production scheme of farmers and force them to practice shifting cultivation in new and forested areas"/01/.

At the present assessment there was no indication that's the change described call sis any effect on the local communities. Nevertheless, no substantial information could be provided, whether these practices will have future negative effects on the wellbeing of the communities in terms of food supply or income generation and therefore requires further monitoring. See FAR 02.

Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed ☒ The finding is closed but an Action Forward Request is issued

CL ID	03	Section no.	3.5	Date : 18/01/2022

Description of CL

Additionality:
Assure that all steps of the Additionality tool are described in the PDD.
Provide further clarification and evidence on the additionality of the project activity and how the barriers prevent the project from being implemented without consideration of carbon credits. Take into consideration the following aspects:

- Burapha and its predecessors started plantations in Lao in 1993.
- The FSC report 2013 states a certified area of 28 hectare.
- The FSC report 2017 states an area of 3,429.1 ha.
- FSC Webpage: Forest Area 8229.60 ha. (https://info.fsc.org/details.php?id=a02400000095RDnAAM&type=certificate#result)
- Establishment of the ply mill

Include references/evidence to all statements and provide reference details (sources) in the PDD for the information included (planted area size, timber price, Bank financial refuses, Project cashflow forecasts, etc).

Consider also the requirement under 9. ff of the tool, taking into account the previous afforestation activities of Burapha:

“If applicable, forestation of at least a part of the land within the project boundary of the proposed A/R CDM project at a rate resulting from

- legal requirements; or
- extrapolation of observed forestation activities in the geographical area with similar socioeconomic and ecological conditions to the proposed A/R CDM project activity occurring in a period since 31 December 1989, as selected by the PP.”

Project participant response	Date : 28/02/2022

The specific subsection (additionality chapter 3.5) has been updated.

Project participant response	Date : 31/03/2022

The project start date has been updated throughout the document (PD). The correct start date is the 01.06.2016, as this is the date of the first planting activities in 2016 (project activities) and not as initial pursued the land agreement contracts.

A section has been added in the baseline scenario chapter describing the financial and business development of Burapha (p. 49/50, PD). Although the planting hectares increased throughout the years, there was a substantial lack of finance in the years of 2014/2015. All plantations to that point would not have been sustainable, if the business model wouldn't have changed in 2016 - 2018, considering carbon credits as major revenue of the project. Without these revenues no new investors would have joined the project to guarantee the continuation of the Burapha afforestation project.

The alternative land use without the generation of carbon credits has been included in the baseline scenario selection process as standard procedure. Due to the business model history of Burapha it is proven that these afforestation activities would not have been sustainable without the consideration of generating carbon credits. Thus, the project is increasing the afforestation rate with generating carbon credits, since it would have failed without these revenues.

Documentation provided by project participant			
☒	Changes in the PD	Section(s): 3.4/3.5	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		
DOE assessment			Date: 21/03/2022

All steps according to the additionality tool are included in the PDD. Additionality assessment is described in detail and sustained with documents. Among others, following issues are clarified:

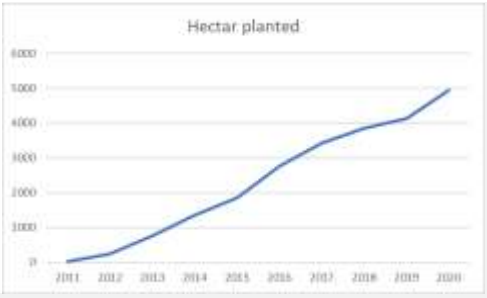
- Early consideration aspects are considered already in the visibility study dated 2011 and 2018 /21/22/.
- Detailed information and evidence about the history of Burapha were provided and described in the PDD /1/, a detailed timeline description /23/ and respective supporting documents /26/. This includes also confidential information.
- Data and figures concerning plantation establishment has been provided /23/25/ and checked for consistency with publicly available FSC reports.
- Documents concerning history and present stage of the Plywood-Mill are provided

Open Issues:

1. The Project start date is presently defined as 22.04.2016 "marked by the beginning of the land lease agreement between Burapha and the first villages/individuals of the afforestation project stated in the Land Owner Agreement by Burapha." According to the standard "The project start date of an AFOLU project is the date on which activities that led to the generation of GHG emission reductions or removals are implemented." The signing of a land lease agreement does not correspond with the standard requirement. Provide further clarification on the start date.
2. Provide clarification how previous afforestation activities of Burapha have been considered in the identification of alternative land use scenarios (see request above):

   Planting *activities starting in 2011 had the following p*rogress /23/:

year	Total ha planted
2011	21
2012	235
2013	769
2014	1,352
2015	1,848
2016	2,762
2017	3,429
2018	3,859
2019	4,128
2020	4,942



Consider the clarification footnote[4] of the tool:

"In this case, the project participants will assess the baseline rate of forestation and shall provide justification that the project will lead to an increased rate of afforestation/reforestation that would not occur in the absence of the project activity and that this results from direct intervention by the project participants. If the proposed A/R CDM project activity does not increase the rate of afforestation/ reforestation, the proposed project activity is not additional."

DOE assessment	Date: 01/04/2022

The project start date has been updated throughout the document (PD). The correct start date is the 01.06.2016, as this is the date of the first planting activities in 2016 (project activities) and not as initial pursued the land agreement contracts.

Further information has been provided in the MRPD page 49/50 explaining the scenario and the lack of funds. Documents to sustain the explanation has been provided and checked by te audit team/48/49/50/.

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	01	Section no.	Calculations	Date : 18/01/2022

Description of CAR

During the onsite visit it was observed, that next to Eucalyptus also Acacia plantations shall be included in the scope.

Provide updated carbon calculations considering the following aspects and include the updated data in the PDD:

- Species composition (Acacia, Eucalyptus/clones)
- Include only plantations that are first implemented/planted after the project start date (1st June 2016) and provide update shapefiles.

Project participant response	Date : 28/02/2022

The Ex-Ante and Ex-post calculations have been updated to include Acacia and Eucalyptus strata separately. The shapefiles are updated and available under the subfolder "project database". The eligibility of all areas is still valid and confirmed.

Project participant response	Date : 31/03/2022

A new shapefile showing the current eligible areas has been uploaded, showing important dates, such as development of the plantation and regeneration date (if applicable). The shapefile has been uploaded to the subfolder “Project Maps and eligibility”. The respective database is located in the subfolder “project database”.			
Documentation provided by project participant			
☒	Changes in the PD	Section(s):	New version No.:
☒	Changes in XLS	Worksheet(s): /06/	New version No.:
☐	Other:		
DOE assessment			Date: 28.03.2022
Updated carbon calculations have been provided and cross checked by the audit team /05/06/. Shapefiles show Contract Year, Start date and Expiry Date; Clarify whether the shapefiles include only eligible areas planted after in or after the Project Start Date 2016.			
DOE assessment			Date: 01.04.2022
Updated shape files/27/ and carbon calculations/05/06/ have been provided and checked for consistency with data of the Project database/45/.			
Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

CAR ID	02	Section no.	5	Date : 18/01/2022
Description of CAR				
Include all data and Parameters available at validation and to be monitored in the respective section of the PDD.				
Project participant response				Date : 28/02/2022
The data and parameters have been updated according to the addressed issues within the audit. Furthermore parameters for Acacia (wood density and R/S ratios) have been included, see CAR01.				
Documentation provided by project participant				
☐	Changes in the PD		Section(s):	New version No.:
☐	Changes in XLS		Worksheet(s):	New version No.:
☐	Other:			

DOE assessment	Date: 28/03/2022
Parameters have been included accordingly.	
Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	04	Section no.	6.1	Date : 18/01/2022

Description of CL

Four sample plots have been remeasured during the onsite visit. The measurements were conducted as described in the PDD. The comparison of the figure from the original measurement 2020 and the remeasurement from 2021 did not show any significant deviation.

Following has been detected and needs to be clarified:

- The data of the PSP 332 is not included in the "Burapha Carbon Inventory" Excel sheet /06/
- The Planting Year of the PSP 241 is dated 2013 and therefor before the project start date; To verify the accuracy of the measurements the following information/documentation need to be provided:
- SOP on measurement of the sample plots,
- SOP on QA/QC procedures for internal auditing and data collection (PSPs measurements, growth, boundary, data archiving, etc.).

Project participant response	Date : 07/03/2022

The PSP 332 has been added to the Monitoring subfolder in the project documentation. The planting years have been updated in Ex Ante and Ex-post, since previously reestablished plantations (after mortality or harvest) got included. The entire databases have been updated to "development year", which equals year of establishment. Thus, PSP 241 is not reflected in the used monitoring data anymore.

For the SOP on measurement of the sample plots, please refer to document "BAFCO PSP Procedures 20220207" available in the project subfolder: Supporting Documentation – Burapha internal documents – 9. Monitoring. Refer to the same document for QA procedures.

Project participant response	Date : 31/03/2022

The PSP 332 has been included in the calculations as requested by the findings. The development year is now the determinant column/date to define the stratum of all newly established plantations. The newest database version is dated to the 31.03.2022.

Documentation provided by project participant

☒	Changes in the PD	Section(s):	New version No.:

☒	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: 28/03/2022

Project years included in the ex-Ante calculations are 2016 – 2020 /5/.

SOP Procedure have been provided /24/.

Column "Development year" cannot be located in the in the "Burapha carbon inventory spreadsheet: 28.02.22".

DOE assessment	Date: 01/04/2022

PSPs 332 and "Development year" is included in the calculations /6/. The raw data stands and inventories/46/ has been crosschecked for the calculations /6/.

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	05	Section no.	Risk Report,	Date : 18/01/2022

Description of CL

General:

Include references/sources of objective evidence to statements made in the Non-Permanence Risk Report, e.g.,:

- SOPs on environmental social safety management system (ESSMS).
- Long term consultancy contract of SilviCarbon as part of the Management team.
- Update the governance score considering the last 5 years of data available.
- Update the Risk Report Calculation Tool according to the adaptation of the findings.

Project participant response	Date : 07/03/2022

The SOP on ESSMS has been included into the Supporting Documentations folder – Burapha Internal documents – SOPs.

The long-term consultancy contract with SilviCarbon has been included into the folder Documentations folder – Burapha Internal documents – 11 Carbon legislation.

The governance score has been updated to the most recent years: 2016-2020 and is calculated at –0.75. The risk reporting has been updated accordingly, however, without a change on the risk score.

Project participant response	Date : 31/03/2022
The Non-Permanence risk report includes now more reference documents for the proof of financial viability and cash-flow break even. Furthermore, the digitally signed copy of the contract between Burapha and SilviCarbon has been added to the project references.	

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☒	Other: Changes in the Risk Report		

DOE assessment	Date: 28/03/2022
- The Non-Permanence Risk Report has been updated /2/. Respective references have been provided (e.g. ESSMS/59/). - The government risk score has been updated /2/. - The Risk tool has been updated /3/. - Provide signed Contract Burapha-SilviCarbon - Include reference documents in the Risk report (e.g.: for proof of financial viability/cash flow break even, etc)	

DOE assessment	Date: 01/04/2022
Further reference documents have been included in the non-permanence risk report/2/. A digitally signed copy of the contract with Burapha and SilviCarbon has been provided/30/ and crosschecked.	
Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	06	Section no.	Risk Report, 2. Financial viability	Date : 18/01/2022
Description of CL				
Provide further objective evidence on the following aspects: - Project cash flow breakeven point between 4 and up to 7 years from the current risk assessment - Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven				

Project participant response	Date : 09/03/2022
The following files have been uploaded to the supporting documentation (Risk Assessment\2022-02-28):	

- Board minutes that approved the budget for 2022 (approved 3/12/22);
- The ppt with the budget for 2022; and
- The CF-model detailing the budget

According to the provided evidence the company is cash flow positive from now on for the future.

Project participant response	Date : 31/03/2022
The financial viability has been updated, since the cashflow breakeven point is reached in 2022, according the confirmed and signed board meeting minutes of Burapha. The board minutes have been uploaded under the supporting documentation. Explanation of supporting documents has been provided in several different meetings by the project proponent.	

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: 28/03/2022
Further evidence on project cash flow breakeven point between 4 and up to less than 7 years from the current risk assessment has been provided /27/28/29/. • Provide a signed copy of the Board minutes that approved the budget for 2022 (approved 3/12/22);	

DOE assessment	Date: 01/04/2022
Further evidence on the project cash flow breakeven point has been provided/27/28/29/. These resulted in a change of the risk assessment. Changes and evidence documentation has been included in the non-permanence risk report/2/3/.	

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	07	Section no.	Risk Report, 3. Opportunity Cost	Date : 18/01/2022

Description of CL
What is the most profitable alternative land use activity compared to NPV of project activity?

Project participant response	Date : 07/03/2022

The next profitable alternative would be the baseline management conditions: swidden agriculture for rice production. No other option exists at this point of time.

Other more productive alternative land uses are not implemented, since farmers lack the finances to switch to more productive alternative land uses. This is also the reason why swidden agriculture for rice production is pursued. Farmers have no financial capacity but time and therefore conduct swidden agriculture.

Project participant response	Date : 31/03/2022

The risk rating has been updated to option f. Before the estimations were very conservative, however are with option f still within the limits of opportunity costs.

Since upland rice is the only viable alternative land use, a NPV calculation has been included as reference, as well as the financial model of Burapha. The differences in NPV between mountain rice and the Burapha business model justify the use of option f (project activities are at least 50% more profitable as the alternative land use). The NPV calculations range for upland rice around 1.3m USD and for Burapha at around 10m USD. Please see also the risk report and added references.

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: 28/03/2022

Provide further clarification on Opportunity costs: Explain and sustain, why option d) and not e) or f) is chosen?

DOE assessment	Date: 01/04/2022

The risk rating has been change to f) as sufficient reference was provided that the NPV of “upland rise” cultivation, which is the most profitable alternative land use scenario, is less than 20% of the you could have this plantation /27/47/.

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	08	Section no.	Risk Report, 4. Land Tenure	Date : 18/01/2022

Description of CL

During the field visit a land tenure issue was identified on 9th Dec 2021 in 1 of the 4 visited villages:

Ban Nadi, Sanakham District

The field team received following comments during interviews:

- The land owners would like to get the unplanted land back since they have not received land lease fees for additional areas beyond what is legally specified in their land use documents.
- The land use documents have been retained with the company.
- The land lease fee payment issue has not been resolved and there has no strategy to remedy this.

Provide further clarification on the ongoing process.

Project participant response	Date : 08/02/2022

In Ban Nadi, we are aware of the issue. It is rooted in the fact that in the past, farmers used to claim larger land areas that what they paid taxes for. For example, if a farmer possessed land documents covering 4 hectares; he/s she would pay taxes on 4 hectares, but their actual land use could be much larger. This was a way for farmers to avoid paying taxes. However, the downside is that they are not formally recognized as the owner of their total land area. When the project started planting in the district, we started to help farmers regularize this situation.

Now, with regards to the issues outlined above, the LUL team is working with the farmers and district authorities to solve these. In particular:

- Land use documents retained by the Company: this is normal, as per the contract signed with farmers. The latter have a copy of the contract.

- Request to get unplanted land back: this is noted and currently being addressed. To be able to give the land back, new contracts need to be made and approved by local authorities. This is ongoing.

- Land lease fee payment: there is a strategy to remedy this. We have paid for all land that is planted, even when it is outside the official land documents. We have also paid for land that is inside the land document area but not planted. We have not paid for areas outside the land document are that have not been planted, even though they are in the contract. This will be sorted out when the new contracts have been signed. This is ongoing as the contracts are currently being reviewed by the district authorities.

Project participant response	Date : 31/03/2022

The minutes of a meeting (17.03.2022) between the district authorities and participating/affected households indicated an attempt to address the land lease and lease payment issues. The minutes also confirmed that these issues will be addressed by early April 2022. As confirmed by the field auditor Bounta, Burapha is in the process of settling and clarifying these issues with the local authorities. The minutes of this meeting have been provided. Since they are in Lao, the field auditor Bounta could confirm the claims made earlier.

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:

☐	Other:	

DOE assessment	Date: 28/03/2022
Provide further evidence documentation on the ongoing process (signed minutes of meetings, etc…)	
DOE assessment	Date: 01/04/2022

Minutes of a meeting have been provided[31] in Lao Language with the following content:

The meeting was held in Nadi village on March 17. It included staff from Burapha, village authorities, DONRE and DAFO staff. It was chaired by the Vice Party Secretary of Xanakham (he is also vice District Governor). 27 people in attendance, including 8 females. The meeting has agreed on a settlement for the payment of land tax and other costs in relation to registering (new) land documents. Although it was agreed that where land is not planted, the farmers can take their land document back – pending compensation to Burapha for the costs incurred in the past for the purpose of registering farmers' land documents for them.

The local expert team confirm, that the minutes of the meeting on 17th March 2022 between the district authorities and participating/affected households indicated an attempt to address the land lease and lease payment issues. The minutes also confirm that these issues will be addressed by early April 2022. Therefore, it can be confirmed that Burapha is in the process to settle such issues with appropriate strategy on working with local authorities on this matter.

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	3	Section no.	Cover page	Date : 06/04/2022
Description of CAR				
Format: According to the template the font shall be non-italic and in black colour.				
Project participant response				Date : 16/04/2022
Font requirements are applied.				
Documentation provided by project participant				
☒	Changes in the PD	Section(s): Cover Page		New version No.: 6
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
DOE assessment				Date: 19/04/2022
Font requirements are applied.				

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed ☐ The finding is closed but an Action Forward Request is issued

CAR ID	4	Section no.	2.4	Date : 06/04/2022
Description of CAR				
Public comment period is not specified and no updates on outcome included.				
Project participant response				Date : 16/04/2022
Respective information has been included in the PDMR.				
Documentation provided by project participant				
☒	Changes in the PD	Section(s): 2.4		New version No.: 6
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
DOE assessment				Date: 19/04/2022
The public comment period is now specified and the mail from Verra, sent: Friday, March 26, 2021 19:52 stating no comments were received has been provided /74/.				
Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed ☐ The finding is closed but an Action Forward Request is issued			

	5	Section no.	2.5	Date : 06/04/2022
Description of CAR				
Assessment as per VCS Standard para 3.17.11 – 3.17-18 has not been followed.				
Project participant response				Date : 16/04/2022
Respective information has been included in the PDMR.				
Documentation provided by project participant				
☒	Changes in the PD	Section(s): 2.5		New version No.: 6
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
DOE assessment				Date: 19/04/2022

A section on the AFOLU specific safeguards has been added, mainly referring to the already mentioned parts in other sections (stakeholder consultations, stakeholder management and grievances), as well as the ESIA, which is encompassing everything in detail.

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed ☐ The finding is closed but an Action Forward Request is issued

CL ID	9	Section no.	Barrier	Date : 06/04/2022

Description of CL

Is there any reference that local banks will not invest in this kind of projects?

Project participant response — Date : 16/04/2022

There is no specific reference, but it can be explained as follows:

- Local banks would provide debt funding and not equity funding. An early stage forestry development like Burapha can typically only be funded by equity. Note that debt finance for forestry assets is not that common. Even mature forestry investments are typically funded through equity (owned by international forest asset owners like Stora Enso) or by dedicated forestry equity investments funds called Timber Investment Management Organizations (TIMO's).

- Even if a local bank would be willing to consider this activity, Burapha would fail to meet typical lender requirements such as demonstrating a minimum of 3 subsequent years of profits prior to applying for a loan.

- Evidence to support this is that the current funders of Burapha are either equity providers or development lenders that apply less stringent profitability criteria on their loans. Also, the Stora Enso Laos operation was funded through equity.

Documentation provided by project participant

☒	Changes in the PD	Section(s): Barrier	New version No.: 6
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment — Date: 19/04/2022

The information provided has been assessed and found as sufficient to provide evidence that local banks will not invest is this kind of forestry projects. It also corresponds to the experience the auditor with another forest carbon project in Lao PDR.

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed ☐ The finding is closed but an Action Forward Request is issued

CAR ID	6	Section no.	5,1	Date : 06/04/2022

Description of CAR

Parameter CBSL_upland rice: No reference under source of data included, and clarify whether this value has been applied in the project calculation.
Project participant response — Date : 16/04/2022
The reference was already included, however as justification and is now included as source. The value has been applied in the calculation of the baseline carbon stock[/5/].
Documentation provided by project participant

☒	Changes in the PD	Section(s): 5.1	New version No.: 6
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: 19/04/2022
Respective information has been provided.	
Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed ☐ The finding is closed but an Action Forward Request is issued

CAR ID	7	Section no.	5,1	Date : 06/04/2022

Description of CAR
Parameters DBH and following: This and the following parameters are supposed to be monitoring parameters (not available at validation). Please delete here and streamline with section 5.2 and 6.1.
Project participant response — Date : 16/04/2022
The sections have been updated and streamlined.
Documentation provided by project participant

☒	Changes in the PD	Section(s): 5.1	New version No.: 6
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: 19/04/2022
Respective information has been provided.	
Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed ☐ The finding is closed but an Action Forward Request is issued

CAR ID	8	Section no.	5.2 und 6.1	Date : 06/04/2022
Description of CAR				
There are more monitoring parameter listed in 5.1 & 5.2 than in 6.1.				
Project participant response				Date : 16/04/2022
The sections have been updated and streamlined.				
Documentation provided by project participant				
☒	Changes in the PD	Section(s): 5.2 und 6.1		New version No.: 6
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
DOE assessment				Date: 19/04/2022
Respective information has been provided.				
Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed ☐ The finding is closed but an Action Forward Request is issued			

CL ID	10	Section no.	5.2 und 6.1	Date : 06/04/2022
Description of CL				
Allometric equation: Clarification is requested whether the equations are in accordance with the CDM tool for appropriateness of allometric equations. (N=9 is smaller than 30). Please include assessment.				
Project participant response				Date : 16/04/2022
A statement on the use of the allometric equations have been included in the appendix.				
Documentation provided by project participant				
☒	Changes in the PD	Section(s): Appendix 2		New version No.: 6
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
DOE assessment				Date: 19/04/2022
Respective information has been provided and checked by the auditor. The auditor follows the argumentation of the PP that states. “Although N=9 is not sufficient to comply with the tool, it is however the used allometric equation to estimate stem volume prior harvest by Burapha. Since Burapha relies also on the sales of wood and therefore on precise wood estimations prior to harvest, it can be				

justified to use this allometric equation. Furthermore, the use of another allometric equation from global databases would not reflect the situation on the ground as much as a Tier 3 equation by the project itself. The number of stems used for this equation is a subsample if approximately 100 stems analyzed for developing allometric equations3. The equations were developed by the consulting company “Simosol”, which advised Burapha after analyzing the data to stratify the stems according to spacing. Thus, the subsample of 9 stems for the equation might seem currently low, is however accurate. Because Burapha aims to be even more precise in the future, it announced to develop new allometric equations within the next monitoring period including the required minimum of 30 trees.” Hence, the allometric equation as provided is accepted.

Conclusion	☐ Additional action should be taken (finding remains open) ☒ The finding is closed ☐ The finding is closed but an Action Forward Request is issued

FAR ID	01	Section no.	6.4	Date : 18/01/2022
Description of FAR				
The leakage tool has been applied. Leakage is considered “0”. Baseline scenario is described as shifting cultivation for upland rice production. This indicates that the land is required for livestock production. If the area is transferred into tree plantation the communities could look for other areas to grow rice, taking int account that intercropping is practiced only in the first year of plantation establishment. This could result in leakage attributable to the displacement of agricultural activities. During the onsite audit no indication of leakage was detected. Nevertheless, as the expansion of the plantation continues the probability of leakage increases . The PP is presently evaluating the possibilities of different monitoring parameters but there is no conclusion yet. Therefore, leakage monitoring should be part of the monitoring activities. Respective parameters should be developed and considered at next Therefore, leakage monitoring should be part of the monitoring activities. respective parameters developed and considered at next verification				
Project participant response				Date : XX/XX/20XX
Documentation provided by project participant				
☐	Changes in the PD	Section(s):		New version No.:
☐	Changes in XLS	Worksheet(s):		New version No.:
☐	Other:			
DOE assessment				Date: xx/xx/2022

[3] Quote Luke McWhirter, chief forester Burapha

Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

FAR ID	02	Section no.	6.4	Date : 28/03/2022

Description of FAR

As detected during the field inspection the harvesting activities are conducted by contractors using harvesters and not manually by the members of the local communities as described and planned in earlier descriptions/16/18/. This might result into a reduction of Job opportunities for the villagers/local communities and therefore in less income than expected.

Furthermore, the intercropping practically takes only place in the first year after planting /16/17/18/19/. The original planning had foreseen intercropping during the first two years to "ensure that the plantations do not interrupt the traditional food production scheme of farmers and force them to practice shifting cultivation in new and forested areas"/01/.

At the present assessment there was no indication that's the change described causes any negative effect on the local communities. Nevertheless, no substantial information could be provided, whether these practices will have future negative effects on the wellbeing of the communities in terms of food supply or income generation and therefore requires further monitoring.

Project participant response	Date : XX/XX/20XX

Documentation provided by project participant

☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: xx/xx/20xx

Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

FAR ID	03	Section no.	1.17	Date : 19/04/2022

Description of FAR

Sustainable development:

The project proponent commits himself to set aside a minimum of 20% of the total area as protected area, "Special Management areas" (SMA). These areas shall be managed as nature conservation areas. The value of minimum 10% is already demanded and verified through FSC-audits. The 20% goal is not a standard requirement. Nevertheless, and the PP has not yet developed and implemented parameters to monitor the successful implementation of the 20% target. Therefore, "Special Management Areas, SMA" should be included in the monitoring activities considered at next verification.

Project participant response	Date : XX/XX/20XX

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: xx/xx/20xx
Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

FAR ID	04	Section no.	Non-Permanence-Risk-Report	Date : 08/12/2022
Description of FAR				
Non Permanence Risk Report, Project management: The PP shall assess the following at next verification: "Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located."				

Project participant response	Date : XX/XX/20XX

Documentation provided by project participant			
☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: xx/xx/20xx
Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

FAR ID	05	Section no.	1.16	Date : 01/03/2023

Description of FAR

Double Counting:

The FCPF-CF Northern Lao PDR Emission Reduction Program (ERPA) is focused on Emissions Reductions (ER) from reduced deforestation, forest degradation and enhancement of forest carbon stocks (REDD+) in six Lao PDR provinces, which includes Xayabouly Province/65/76/. This creates a potential for double counting of VERs in the mentioned province of Xayabouly. The "Announcement Letter" /44/ issued by Ministry of Agriculture and Forestry, does not clearly specify the double counting aspect for PAIs in Xayabouly Province. Hence the PP excluded all areas from the present 1st verification assessment.

For any future PAI the risk of double counting shall be assessed for all provinces covered by the ERPA/65/76/ or other programs, specifically Xayabouly Province, in line with the VCS Standard requirement (VCS 4.2, Section 3.21.3) at every upcoming verification assessment.

Project participant response	Date : XX/XX/20XX

Documentation provided by project participant

☐	Changes in the PD	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment	Date: xx/xx/20xx
Conclusion	☐ Additional action should be taken (finding remains open) ☐ The finding is closed

APPENDIX 5: STATEMENT OF COMPETENCE

TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

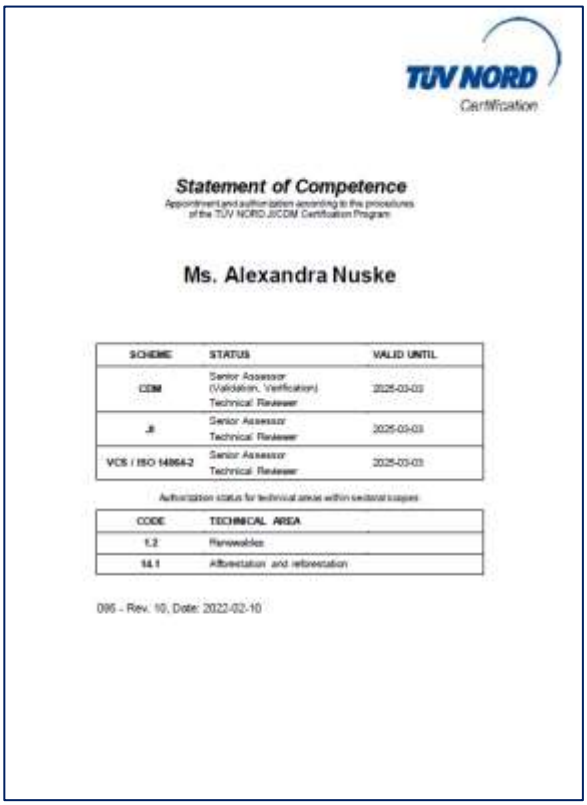
Mr. Martin Seitz

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2022-08-22
VCS / ISO 14064-2	Lead Assessor (Validation, Verification)	2022-08-22

Authorization status for technical areas within sectoral scopes

CODE	TECHNICAL AREA
14.1	Afforestation and Reforestation

384 - Rev. 0, Date: 2019-08-23



TÜV NORD Certification

Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Ms. Alexandra Nuske

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2025-03-03
JI	Senior Assessor Technical Reviewer	2025-03-03
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2025-03-03

Authorization status for technical areas within sectoral scopes

CODE	TECHNICAL AREA
1.2	Renewables
14.1	Afforestation and reforestation

086 - Rev. 10, Date: 2022-02-10