FRESH BREEZE AFFORESTATION PROJECT. MONITORING REPORT 4

Project Title	FRESH BREEZE AFFORESTATION PROJECT
Version	6
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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The Fresh Breeze afforestation project covers 5,338.94 hectares of land, which are adjacent to cattle, on which forest plantations for obtaining high-value, long-lived timber products and for sequestering large amounts of carbon dioxide from the atmosphere are been and will be established. The project activity is established in the states of Tabasco, Nayarit and Chiapas, Mexico.

PROTEAK UNO S.A.B. de C.V. -PROTEAK- is the Project Proponent for the Fresh Breeze Afforestation Project. For the current report, PROTEAK hired Pablo Domínguez as the specialist to develop the reporting and verification of the Project (MRV).

The planted specie is *Tectona grandis* (L.f.), commonly called "Teak". The land selected for plantation of teak, has optimal conditions for the development of this tree specie.

The project activity is categorized as a grouped project due to the project foresees expansion of teak plantations, adding new project areas and instances in the future years. The project facilitates access to carbon finance as an additional income source and generates positive incentives for reforestation with sustainably or responsible managed teak tree forests. The project has been resulted in a significant contribution to sustainable development of Mexico, due to: i) increased employment and quality of employment; ii) rural development; iii) increased gross value of production; v) biodiversity preservation and vi) improvement and preservation of soil quality.

July, 2009 corresponds to the date when started the plantations of the Plantation Tintal, this event corresponds to the first activity that led the GHG removal of the project; since this day the project start the operation and every year new plantation were added as is described thru this report.

In the previous monitoring report, 30 farms with PROTEAK as owner, were reported. For the current report, the Project Proponent is informing that 30 farms are remaining with the inclusion of two new substrata: San Pablo 2016 and La Laguna 2015. Even though the farms San Pablo and La Laguna were included at previous report's calculations, the plantations established in years 2015 and 2016, are now included in the carbon removals claims. In the case of both substrates, these plantations were generated from the renewal of portions of pre-existing plantations due to poor tree growth; given this, the areas of these farms and their substrates were updated. The eligibility of both substrates had already been demonstrated at the time of including the original plantations.

Since the last report, the leakage was counted as 0; given that the previous land use of the new substrata included (San Pablo 2016 and La Laguna 2015) was grassland (for cattle breading), leakage did not change for this reported monitoring period.

The non-permanence risk factors reflect one change at the Internal Risk assessment, mainly given by the application of one mitigation measure (Factor f), and given this, the risk factor is now 10%.

The monitoring event described in this Monitoring Report was carried out on October 2022. The period of carbon removal measured was from January 1st, 2021 to October 31th, 2022. The GHG emission removals generated by the project activity during the monitoring period, are equal to 57,756 tons of CO_2-e.

Table 1. Audit history of the project.

Audit Type	Period	Program	VVB Name	Number of years
Validation	03-June-2014	**VCS**	Asociación Española de Normalización y Certificación -AENOR-	
1st Verification	01-July-2009 to 22-December-2014	**VCS**	Asociación Española de Normalización y Certificación -AENOR-	5
2nd Verification	23-December-2014 to 31-December-2019	**VCS**	SCS Global Services	5
3rd Verification	01-January-2020 to 31-December-2020	**VCS**	KBS Certification Services Pvt. Ltd.	1
4th Verification	01-January-2021 to 31-October-2022	**VCS**	Asociación Española de Normalización y Certificación -AENOR-	2
Total	**4 vintages**		**4 different VVB**	13

1.2 Sectoral Scope and Project Type

The project corresponds to VCS scope 14 “Agriculture, Forestry and Other Land Use” (AFOLU) as an Afforestation, Reforestation and Revegetation (ARR) project.

The project is classified as a grouped project because new areas will be included in the future, according to the Project Proponent expansion plan.

1.3 Project Proponent

Organization name	PROTEAK UNO S.A.B. de C.V.
Contact person	Roberto Fabián Flores Torres
Title	Project Development chief
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1.4 Other Entities Involved in the Project

Organization name	Pablo I. Domínguez H.
Role in the Project	Environmental consulting, in charge of Monitoring Report delivery to the Validation/Verification body according to VCS guidelines and procedures.
Contact person	Pablo I. Domínguez H.
Title	MRV specialist - consultant
Address	31 calle 6-65 zona 11, Mariscal, Ciudad de Guatemala, Guatemala
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Email	Email: pdproduvex239@hotmail.com

Besides Project Proponent developing the project activities within instances (farms), there are no other entities involved in the Project. Pablo Domínguez was hired as the specialist MRV (Monitoring, Reporting and Verification), to develop this report.

PROTEAK as the Project proponent will provide further information about the general description of the Project's participants in every monitoring report, updating the information and complementing as necessary.

1.5 Project Start Date

The project start date for the Project is July 1st, 2009. The start date corresponds to the implementation of the first project instance, which was the initiation of the preparation of land and the start of nursery activities for the establishment of the first teak forests within the Project geographic area (Tintal Farm in México) and led to the GHG removal of the Project.

1.6 Project Crediting Period

The crediting period will be 50 years from July 1st, 2009 to June 30th, 2059. In accordance with VCS Standard, the crediting period of AFOLU projects will have a minimum of 20 years and a maximum of 100 years, therefore, the project activity is in line with the length of the crediting period.

1.7 Project Location

The project activity is established in the states of Tabasco, Nayarit and Chiapas, Mexico. Coordinates of every discrete area included at the Project, are submitted separately as a KML file[1].

Table 2. Summary of the localization for each of the properties.

Property name	Municipality	State	Latitude Coordinates	Longitude Coordinates
Capitán	Ruiz	Nayarit	21°54'17.2565"-21°55'21.5073"	105°03'17.0963"-105°02'28.0062"
Cascada	Tepic	Nayarit	21°38'49.1112"-21°42'03.0225"	105°03'25.6161"-105°01'49.1458"
Cuvadonga	Tenosique	Tabasco	17°22'56.0356"-17°53'55.9316"	91°17'44.1994" -91°16' 18.3666"
Don Justi	Huimanguillo	Tabasco	17°40'37.0655"-17°41'07.7419"	93°23'35.8057"-93°22'50.4187"
Diamante	Huimanguillo	Tabasco	17°42'44.5892"-17°43'17.5565"	93°23'51.2254"-93°22'59.6898"

[1] ANNEX II. Project Activity Instances\KML files.

Property name	Municipality	State	Latitude Coordinates	Longitude Coordinates
El Milagro	Tapachula	Chiapas	14°44'26.8438" - 14°45'11.7028"	92°16'52.6361"- 92°15'43.2899"
El Rincon	Palenque	Chiapas	17°35'58.2534"- 17°36'04.2561"	91°67'20.0981"- 92°06'25.8007"
Empeño 8 9	Tepic	Nayarit	21°38'43.3131"- 21°39'51.2910"	105°05'02.3323"- 105°03'51.7371"
La Estrella	Palenque	Chiapas	17°25'20.6780"- 17°25'59.3793"	91°36'33.3775"- 91°35'08.3561"
La Nueva Pezuña	Tapachula	Chiapas	14°46'38.7759" - 14°47'04.3799"	92°14'46.1324" - 92°14'33.0988"
Las Caobas	Balancan	Tabasco	17°50'49.5002"- 17°52'18.9842"	91°19'21.9424"- 91°18'29.1293"
Los Cedros	Balancan	Tabasco	17°50'17.9392" - 17°50'49.9673"	91°18'39.4440" - 91°18'04.3277"
Los Brasiles	Balancan	Tabasco	17°49'26.9733" - 17°50'48.9856"	91°19'14.0551"- 91°18'03.6577"
Las Amapas	Balancan	Tabasco	17°48'35.9505"- 17°49'45.5614"	91°19'57.4902"- 91°18'04.2594"
Piedra Santa	Tenosique	Tabasco	17°22'03.8508"- 17°23'50.7209"	91°13'25.5748"- 91°11'13.4305"
Pocito	Balancan	Tabasco	17°51'55.8142"- 17°53'01.3608"	91°16'40.4222"- 91°14'54.8428"
Asterisco	Palenque	Tabasco	17°25'53.88"- 17°25'26.68"	91°37'11.53"- 91°36'29.71"
San Agustin	Tapachula	Chiapas	14°44'26.8438"- 14°45'11.7028"	92°16'52.6361"- 92°15'43.2899"
San Juan	Frontera Hidalgo	Chiapas	14°45'02.2866"- 14°45'32.2536"	92°14'49.6422"- 92°13'47.7973"
San Pablo	Balancan	Tabasco	17°48'00.8786"- 17°49'02.0946"	91°20'04.4037"- 91°18'55.7802"
Santa Rosa	Balancan	Tabasco	17°43'24.5522"- 17°44'00.4863"	91°29'41.0416"- 91°29'05.6074"
Tacotalpa	Tacotalpa	Tabasco	17°35'53.55"- 17°38'5.29"	92°49'09.8"- 92°47'08.73
Tintal	Balancan	Tabasco	17°53'56.8192"- 17°53'01.3608"	91°16'40.4222"- 91°14'54.8428"
Victoria 7 9	San Blas	Nayarit	21°38'26.7938"- 21°39'05.3962"	105°09'59.3570"- 105°09'31.9502"
El Porvenir	Tenosique	Tabasco	17°23'0.0390"- 17°23'30.0710"	91°17'12.3080"- 91°16'18.8130”

Property name	Municipality	State	Latitude Coordinates	Longitude Coordinates
La Laguna	Huimanguillo	Tabasco	17°47'56.8660" - 17°50'5.4220"	93°46'24.2140" - 93°45'8.4370"
El Abuelo	Huimanguillo	Tabasco	17°48'21.6400" - 17°49'58.6030"	93°44'39.5000" - 93°43'26.1820"
El Zombie	Ostuacan	Chiapas	17°32'17.5980" - 17°33'32.6600"	93°27'5.3280" - 93°26'25.4580"
El Establo	Tapachula	Chiapas	14°44'17.4130"- 14°44'44.2860"	92°16'34.8700" - 92°15'51.6800"
El Capri	Huimanguillo	Tabasco	17°42'55.885" – 17°43'11.099"	93°23'3.193" – 93°22'42.865"

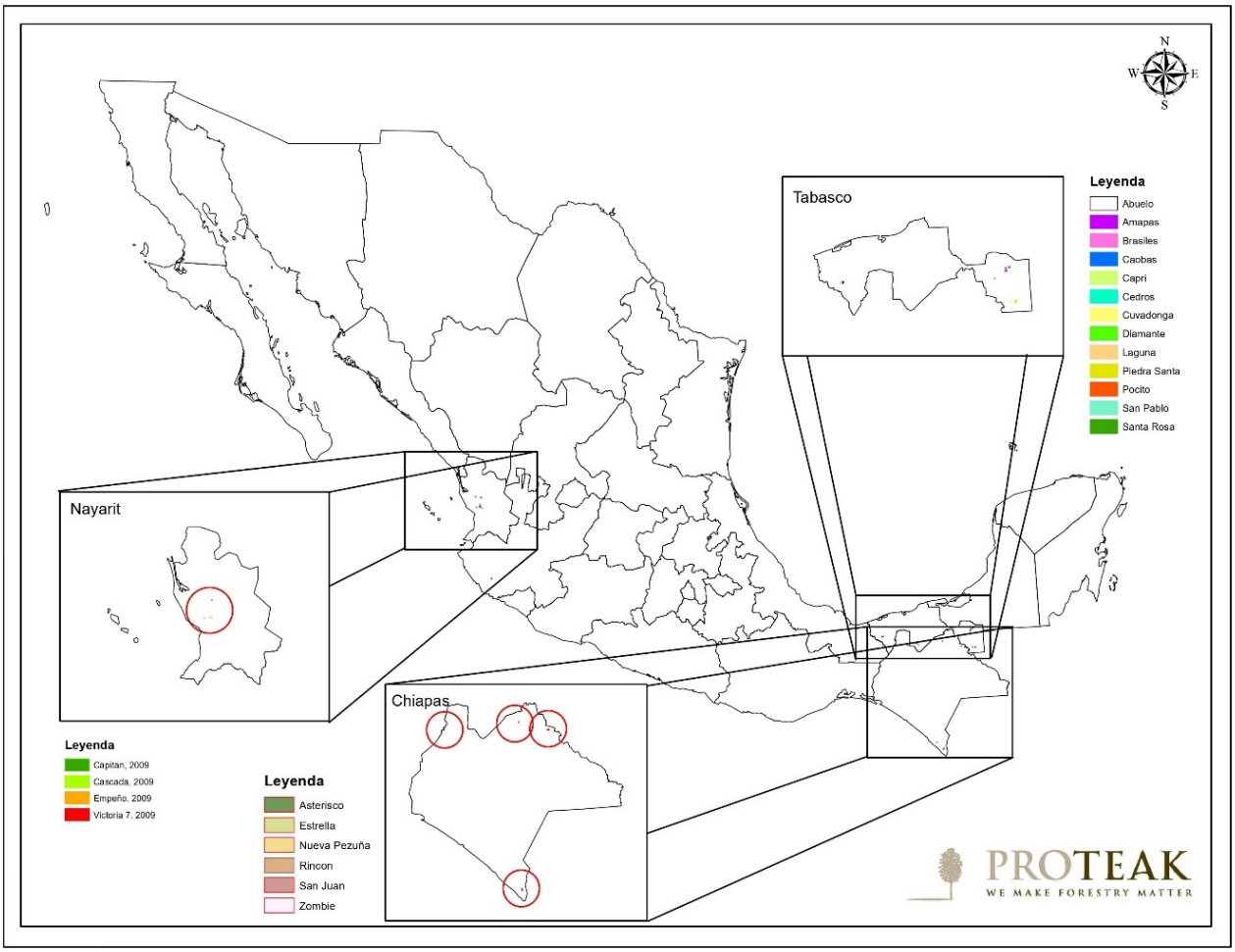

Figure 1. Project location in México (host country)

1.8 Title and Reference of Methodology

The Fresh Breeze Afforestation Grouped Project applied the CDM consolidated methodology AR-ACM0003 Version 1.0.0 “Afforestation and reforestation of lands except wetlands”, to the Project activity.

The following CDM methodological tools referred in the methodology are applied for supporting guidance:

- “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities” Version 3.1
- “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 greenhouse gas (GHG) emissions resulting from burning of biomass attributable to an A/R CDM project activity” Version 4
- “Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity” Version 2
- “Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities” Version 1.1.0
- “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” Version 1
- “VCS AFOLU Non-Permanence Risk Tool” Version 4
- “Calculation of the number of sample plots for measurements within A/R CDM project activities” Version 2.1.0.

1.9 Participation under other GHG Programs

GHG emission removals generated by the Project are not and will not be used for compliance with an emission-trading program or to meet binding limits on GHG emissions. The project is not registered nor is seeking registration under any other GHG programs.

1.10 Other Forms of Credit and Supply Chain (Scope 3) Emissions

PROTEAK, as the Project Proponent states that the GHG emission reductions/removals issued during this Monitoring Report have been not be issued as other types of GHG credits or claimed as other forms of environmental credit and are not also used under emission trading programs, other mechanisms that include GHG allowance trading, or neither participating at any supply chain affecting emissions associated with a good or service.

1.11 Sustainable Development Contributions

The Mexican Sustainable Forest Development general law[2], in article 2, objective of the law, states: I. To contribute to the social, economic, ecological and environmental development of the country, through the integral sustainable management of forest resources, as well as watersheds and hydrological-forest ecosystems, without prejudice to the provisions of other regulations; II. To promote forestry and the use of forest resources, so that they contribute with goods and services that ensure the improvement of the standard of living of Mexicans, especially that of forest owners and settlers; and III. To develop environmental goods and services and to protect, maintain and increase the biodiversity provided by forest resources. The project fully contributes to these objectives by reforesting degraded land and promoting private investment for the production of timber forest products used in the national and international market.

[2] https://www.gob.mx/profepa/documentos/ley-general-de-desarrollo-forestal-sustentable#:~:text=Tiene%20por%20objeto%20regular%20y,Estados%2C%20el%20Distrito%20Federal%20y

Table 3. Sustainable development contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
1	1	1. End poverty in all its forms everywhere	The project provides new opportunities for formal employment in the region, contributing to an improved quality of life for the population.	During the monitoring period reported (2021-2022), an average of 160 employments (150 man and 10 woman) in an average per month, has been provided	During the project lifetime, an average of 150 employments (147 man and 3 woman) in an average per month, has been provided since 2009.
2	4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Since 2020 PROTEAK seeks to implement initiatives that improve employment opportunities for youth in the areas in which PROTEAK operates. This effort includes the generation of skills and skills required by young people to join the workforce in our industry and associated sectors. The final aim is to create a link program with university.	During the monitoring period reported, Proteak supported public schools and research institutions, throughout: - Donations (road repairments and knowledge sharing): 2 schools supported, with 80 students benefited. 4 students within Proteak through the internship program. - Visits were received from 3 different universities interested in expanding the knowledge of young students in agricultural and environmental careers.	Data from the registry of benefits, dating back to 2017; since this year, support to 5 different schools and 3 universities are accounted for. The supports have consisted of: - Materials for repair and improvement of school infrastructure, mainly in MDF wood produced by PROTEAK; - Computer equipment; and - Children's program that provides toys. - Related to the internship program, there has been 39 students.
3	5	Achieve gender equality and empower all women and girls	Proteak has promoted gender equality through the empowerment of the women of the communities through the creation of job opportunities for them.	Proteak provides a safe, non-discriminatory, and equitable work opportunity and environment for its employees, without distinction of any nationality, place of residence, sex, national or ethnic origin, color, religion, language, or any other condition. Proteak, during the monitoring period reported, has provided employment to 117 women, which represents 17% of its staff, of which 88 are part of the forestry staff, as evidenced in the Headcount of forestry staff.	The average of women working for PROTEAK is 10 monthly, since the beginning of the Project activities.

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
4	13	Take urgent action to combat climate change and its impacts	The project is concerned with the sustainable development of its activities and its contribution to the mitigation of climate change.	During this monitoring period, the project activity has achieved the removal of 57,756 tCO_2-e.	During the project lifetime,1.215,246 tCO_2-e has been sequestered by the Project
5	15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	The project fully contributes to this objective by reforesting degraded lands and promoting private investment for the production of sustainable timber forest products, certified by using international standards to comply and demonstrate this claim. Proteak Uno, S.A.B. de C.V. developed a Master Plan for Forest Management where the company promotes the planting of commercial species as a sustainable alternative to wood extracted from natural forests, where the introduction of organisms genetically modified, is prohibited in silvicultural operations. The company evaluates the environmental impact of its products throughout the different stages of transformation; the change from pasture (previous land use) to teak tree plantations (project activity), has impact in the recovering degraded soils. Also, the project area functions as a buffer zone to rivers and natural reserve. Forestry activities are governed in accordance with national and international regulations.	Currently, Proteak is FSC certified. In addition, sales of certified product have already been made.	PROTEAK, during the project lifetime has maintained the certification for 2 certification periods; having started in 2014, and being valid until 2023.

2 SAFEGUARDS

2.1 No Net Harm

None of the planned project activities foresee any negative impacts on the community and environmental values assessed during the initial stakeholder's consultation; this is clearly concluded after:

a) the environmental and biological assessments; and

b) in accordance with every stakeholder's consultation.

In 2012, PROTEAK conducted a detailed environmental assessment within existing properties then. However, the methodology applied by PROTEAK, and the results of the Environmental Impact Assessment conducted, is generally applied to all plantations carried out by the company since 2012. The criteria by which the delimitation of the environmental system within which the project has a significant influence were established are as follows:

1. The project's land has been used for agriculture and cattle raising for many years and has similar characteristics to the general area where it is located.

2. Human presence is very intense in the region in general due to agriculture, cattle ranching, human settlements and commerce.

3. Given the aforementioned anthropogenic activities in the area of influence of the project, the environmental system is very altered from its original state, especially in terms of vegetation and wildlife.

4. In most of the project's area of influence, the vegetation is secondary due to the areas cleared for agriculture to create pasture areas and livestock management facilities.

5. Wildlife in the project's area of influence has been greatly altered in terms of its presence, diversity, and habits due to intense anthropogenic activity. Especially the larger mammals such as deer, which have been hunted traditionally for many years and have been driven away to remote areas, felines have also been driven away from these areas by ranchers and settlers in the area, since they pose a risk to the survival of livestock offspring.

The key threats to these risks concluded and assessed, were: contamination of local water sources, vulnerability to forest fires and decent and stable jobs. Mitigating project activities have been implemented to address threats within the framework of the project, including: prevention of the loss of forest cover near water sources (native forest left as remnant, bordering the water sources or planting of teak trees where there was no cover); preventing the construction of infrastructure near water sources; cleaning internal trails, especially in fire prone areas (preventing fences); patrolling the farm during seasons with high fire vulnerability; and placing signs around the farm perimeter with warning and precaution themes in some farms; providing local job opportunities with the economic benefit in the daily livelihood at the communities.

Project activities are heavily focused on maintaining and enhancing forests and natural ecosystems, and thus the environmental, social, and cultural benefits derived from them; such activities will have a strong positive impact.

The Project activity also seeks to provide economic opportunities for members of the community (formal and permanent job opportunities). Since the main previous land use was cattle ranching and agriculture crop production, there were limited positions available to the near-by community before the project was implemented; the occupation of local labor is of a well-marked temporality. The mechanization[3] of agricultural activities in the crops production reduces the number of people working in the areas and the harvest, it is the only time where a large amount of labor is concentrated, but it is mostly labor from other regions, different from where the harvest activity is carried out (internal immigration).

Table 4 resume all the comments and findings gathered during the environmental assessment and every stakeholders' consultation in Project areas, with the correspondent mitigation action developed and executed during the monitoring period reported.

PROTEAK also develop a report of the assessment and findings about social, community and environmental issues evaluated[4].

[3] https://www.elfinanciero.com.mx/economia/productores-del-campo-enfrentan-problemas-en-sus-actividades/

[4] ANNEX V. Monitoring\Annual Monitoring Report April 2023.pdf.

Table 4. Environmental and social risks with their respective mitigation actions

Threat	Proposed mitigation effort	Status of mitigation
Illegal poaching of fauna/Extraction and commercialization of illegal flora and fauna	Implement patrolling	The patrolling is implemented as regular security activities in all farms
	Coordination between the national patrolling guards, national authorities (PROFEPA), and supporting NGOs	Communication between entities has been made but no formal coordination has been required. During the monitoring period, no incidents were reported.
	Place signs around the farm that raise environmental awareness and warn against illegal activity	Implemented in all the farms; this prevention activity is particularly notorious in the protected areas that PROTEAK has designated
	Establish a mechanism of control for people that enter any areas of conservation in the farm, be they workers of the company or visitors	Security controlling the entrance at farms is implemented. In addition, surveillance patrols are always carried out. All the properties are properly fenced to prevent any unauthorized entry or encroachments
Impacts on biodiversity	All plantations will be done on cattle pasturelands and crop fields, any removal will begin after 20 years of the establishment of the first plot, and there will be reforestation with timber plantations	Removals or replanting are not occurring during the current monitoring period
Impacts on archeological or cultural sites	Not present	Not applicable; no archeological or cultural sites occurs whiting Project boundaries
Invasion of nearby areas or/and farms	Implement patrolling	Project has a natural patrolling due to the way that the project operates with constant worker engagement in farms and with the support of private security
	Place signs around the farm that indicate its status as private property	Implemented in all the farms
	Inform local authorities or specialized environmental groups, of any invasion in nearby areas	Implemented although no invasions have been seen/reported
Contamination of water sources	Avoid any forest cover loss nearby water sources (natural forest cover or tree plantations)	Project avoids forest cover loss as evidenced in plantation progress. Native forest left as remnant, bordering the water sources.
	Avoid the construction of infrastructure on sites near the borders of water sources	No additional infrastructure has been built near water sources

Threat	Proposed mitigation effort	Status of mitigation
	Residual water generated by employees or due to washing of equipment shall be disposed of through drainage systems located in the farm. Cesspools are available in the farm	Residual water by employees is disposed correctly on properties that have infrastructure; cesspools are available, in accordance of the demand of use. In the case of farms that do not have infrastructure, portable toilets are used and moved according to the requirements and progress of field activities. The waste is then handled responsibly by contracting a company specialized in this area for this specific purpose. Some cases of water reuse can be found on some farms
Impacts on soil quality due to organic and non-organic waste as well as chemical containers	Most waste is organic, however non-organic waste shall be disposed responsibly. There will be no burning of waste and any residual water shall follow governmental guidelines	Waste is disposed accordingly; Municipal trash grounds, which are legal, are used to dispose of trash
	All containers that were used for pesticides will follow the governmental protocol for discharge	As per governmental protocol, containers are properly discharged. The triple washing of agrochemical containers is performed for all empty containers before they are delivered to the specialized company in charge of their final disposal. In addition, PROTEAK has a contract with another company for the removal of hazardous waste, such as oils and chemicals
Impacts on air quality	Only authorized personnel are allowed in farm	Given the security and the restriction of personnel allowed within de plantations (only authorized workers), this measure prevents and avoids that people not related with the forest production, stays unnecessarily at plantations
	Use of safety equipment by workers such as masks, helmets, protection goggles, etc	All workers wear proper safety equipment accordingly to the labor they do
	The smell is nontoxic, seasonal, and only perceptible for a few meters around the plantations	No special or specific activity is required
Forest fires	Implement fire patrolling in the beginning of the dry season with special concern in vulnerable areas	Project has a natural patrolling due to the way that the project operates with constant worker engagement in farms There is a forest protection crew, certified as forest firefighters (with verifiable training). PROTEAK conduct fire breaks and controlled burns for fuel reduction, yearly

Threat	Proposed mitigation effort	Status of mitigation
	Coordinate with neighbors during any burning of lands	Project is aware of neighboring fires. There are agreements with neighbors; 50% and 50%, they train together, or PROTEAK train the neighbors. Equipment has been lent to neighbors to control fires on their properties. There is also coordination with the state government and civil protection, although at the time of this report, there was no event or requirement; for these entities, PROTEAK has fire control equipment at their disposal in case support is required.
	Place signs around the farm that raise environmental awareness and warn against illegal activity	Implemented in all the farms. The existing "Avoid forest fires" signage is focused on preventive action.
Occupational hazards	There are minimum risks of occupational hazards since the work is simple and does not degrade workers physical or mental health at any moment	Project activities are known and common in the Project areas: The activities are planned by setting goals based on the biophysical capabilities of people, so that they do not exceed occupational risks in workers.
	Workers use personal protection during any occupation that involves risk. Specifically, during the application of any chemicals	Workers use proper personal protection during high-risk tasks (e.g. weed control). PROTEAK provides all PPE that has been determined to be necessary for all Project activities. PROTEAK has given so much importance to this issue that it has hired an occupational and environmental safety specialist to be on the lookout for this issue on a daily basis.

2.2 Local Stakeholder Consultation

Appropriated stakeholders' relations have been a priority for the Project since the start date, with the premise that a participatory approach is the only way to success in the Project activity; the project is not only about teak trees, but mainly about people.

2.2.1 Socio Economic impact

PROTEAK generates jobs in the ejidos and communities where the Project activity is developed. Throughout the company's operations, PROTEAK has incorporated local workers to the activities; for the development of forestry and community activities, has encouraged the local hiring of workers, offering permanent jobs, complying with national laws and promoting sustainable development through plantation management. PROTEAK's performance is not only recognized and audited by

Mexican laws, but is also certified under the strictest international forest management standards (FSC)[5].

Given that PROTEAK seeks to maintain a positive impact and mitigate any negative impacts that may result from its operation, elaborated a socio-economic evaluation[6], in which it was described the methodology and the evaluation followed to measure the social impact generated by the project activities and the plantations. This social assessment was prepared, with the information collected in the surveys conducted in October 2019; this was the baseline to stablished the methodology followed since then. This evaluation was based on the definition of several indicators to meet the requirements of Principle 4 of the Forest Stewardship Council (FSC) Forest Management Certification standard.

The Social, Community and Environmental impact evaluation aims to:

1) Define indicators that allow the collection and analysis of information in a reliable way to evaluate the degree of performance of the project in the components of employment generation and community support.

2) To guide the project staff in the planning and elaboration of the Annual Operational Plan (POA), in order to take into account, the prevention and mitigation of negative impacts that may be caused by the management of forest plantations.

3) To comply with Mexican standards, laws and regulations.

4) Maintain the FSC forest management certification.

The Direction of Human Development and Environment is responsible for monitoring of the performance indicators.

For the evaluation of the social impact in the communities[7], consultations with the local representatives of organized groups and/or representatives of public institutions have been considered. The results of the consultations allow the company to identify the positive and negative impacts of its activities and to establish the necessary Corrective Actions in case of any negative impact. The first section of the survey records the general data of the person, to have a reference in case a future consultation is needed. The second part collects demographic information (gender,

[5] ANNEX IV. Plantation Management\Forest Management Certification\FSC Certification-FM_CRT_PROTEAK_033023.pdf

[6] ANNEX V. Monitoring\Community and stakeholders\PROTEAK-Monitoring plan 2021.pdf, PROTEAK-Monitoring plan 2022.pdf and Annual Monitoring Report April 2023.pdf.

[7] ANNEX V. Monitoring\ Community and stakeholders \Evaluación Impacto Social_PROTEAK Uno_2022.pdf.

age and occupation), and determines the geographic location and the farm closest to their homes. In the third part of the survey, a series of indicators have been developed to determine the positive/negative impact of PROTEAK. With these, the surveyed is asked to indicate his or her level of satisfaction according to specific activities of the company.

In addition, the company's indicators are evaluated, including employment generation, support and consultations to the communities, health services, generation of pollutants and water sources.

The results of PROTEAK's involvement with the community are presented on the last impact evaluation document that was developed. This evaluation is done every year to understand and monitor the community's engagement and satisfaction. In this Social Impact Assessment 2021 and 2022[8], the community supports completely the implementation of the project. The positive comments increased regarding the generation of jobs in the area, as well as the benefits the Project offers to workers and the support given to the communities for a better economy and livelihood. The monitoring period has been evaluated integrating activities involving the following:

- Environmental Education: With community members, PROTEAK organized sight visits of the project area to help them understand the importance of a correct environmental management and knowledge of what they have and needs to be preserved. The company focuses specially on the education of young people due to their capacity of retaining information and generating a stronger impact on a future society. PROTEAK also provides knowledge of effective fire management activities (forest fires).

- Infrastructure for educational purposes or within educational sites: PROTEAK aims to understand and comply each necessity that the community might have. The company supports school's infrastructure and classrooms maintenance, and school activities.

However, as an opportunity for improvement, as part of the results, it was raised that communication should be strengthen with the communities regarding environmental issues; some stakeholders are still unaware about that activities are being undertaken to correct possible negative impacts that could arise from the forestry operation, about the carbon credit project and its benefit and the commitment to improve the neighboring relationship. This can be achieved through participation in ejido meetings as well as further promoting continuous dialogue with the communities where it operates, to report on the activities undertaken and that are of great interest to the local population.

[8] ANNEX V. Monitoring\ Community and stakeholders \PROTEAK-Monitoring plan 2021.pdf and PROTEAK-Monitoring plan 2022.pdf.

2.2.2 Stakeholder access to Project documents

All of the land is privately owned and used as pastureland for cattle or agriculture production; this means that, when making decisions, PROTEAK does not have to consult the communities. However, local communities are involved, in order to make them aware of the good practices and management that are being done in the participating properties. In addition, PROTEAK take into account consistent consultations and comments/requirements with project communities and other stakeholders as a way to incorporate local knowledge into the project. Consultations ensure to engage with both men and women, and more marginal stakeholder groups in culturally appropriate ways to ensure that the project can hear a wide range of perspectives. PROTEAK currently generates a sustainability report[9], which compiles the company's performance and results. This is a summary of the company and its corporate responsibility.

This document is publicly available to anyone who searches the following link: https://proteak.com/planes-anuales/. Taking culture and gender-sensitivity into account, it can be seen that in the communications and socialization of specific information about the Project and its certifications (VCS and CCBS), men and women were included to participate and were always present in the meetings.

All stakeholders are notified that if they wish additional information, all documents can be provided. There have been no unresolved complaints recorded in the farms and there are no ongoing disputes. This can be verified in the records during verification.

2.2.3 On-going communication with local stakeholders

PROTEAK, taking into account that communication with Stakeholders and local communities is one of the pillars on which it must develop its management activities and good relations, has developed a specific procedure to properly address all communication that is directed to PROTEAK. The Complaints and Feedback Mechanism[10] -MAQR- aims to provide Stakeholders with an accessible and effective process to submit complaints, claims and/or concerns that may arise about the Project's activities. PROTEAK recognizes that a MAQR needs to be accountable and fair. Verbal and written complaints related to communities will be the responsibility of the Environmental and

[9] MR2022\ANNEX V. Monitoring\Document: Reporte de Sutentabilidad 2022.pdf.

[10] ANNEX V. Monitoring\Community and stakeholders\PRO-SG-DHAS-05 Procedimiento de quejas y retroalimentacion externa.pdf.

Social Responsibility Coordinator in collaboration with the Forestry area in plantations, harvesting and transportation, and contractors.

Verbal and written complaints related to PROTEAK personnel are governed by PROTEAK's Internal Complaints Channel Management Policy[11] and are the responsibility of the Ethic Committee, in collaboration with the officials designated by the contractors.

In addition, the Project has an efficient tool for the collection, follow-up and notification of complaints and feedback[12]. The process is documented through a register of complaints and feedback (in a physical file and in a database). The procedure starts with the notification of the complaint or feedback (orally or in writing) by the complainant. The process ends with closure and agreement on resolution by both parties (the complainant and the Project).

During the months of August and September 2023, the Project Proponent conducted public events were held in order to provide relevant information and document this approach to the local communities, as well as to the company's workers, who also belong to the local communities surrounding the project areas.

In accordance with the above, a total of 7 events were held in the communities of the following municipalities:

- Tacotalpa

- Humanguillo

- Palenque

- Balancan

- Pichucalco

Special emphasis was placed on the communities of Tacotalpa and Huimanguillo, since PROTEAK's largest operations are related to these communities.

The main objectives of these communications, were:

[11] ANNEX V. Monitoring\POL-LEG-004 Política Gestión del canal de denuncias.pdf

[12] ANNEX V. Monitoring\ Community and stakeholders\MAQR-2022.xlsx.

1. To inform and get people´s feedback about the results of project implementation, including the results of monitoring.

2. To inform and get people´s feedback about any changes to risks, costs and benefits the project may bring to local stakeholders.

3. To inform and get people´s feedback about any changes to relevant laws and regulations covering workers' right in the host country.

4. To inform about the process of VCS Program verification and the validation/verification body's site visit.

5. To inform and get people´s feedback about information of the carbon sequestration project

PROTEAK issued two[13] reports specifying the methodology, the information that was shared, the scope of the socializations and, above all, the results and feedback of the events.

As can be seen in both reports, the events required feedback from the attendees; the evidence, apart from the participation lists, also includes the comments received.

2.2.4 Frequency of data collection

During the current monitoring period reported, the assessment of the socio-economic indicators has been evaluated in a yearly frequency. Some data were taken at different times of the year, given the nature and implementation schedule of the different forestry activities (planting, pruning, thinning, harvesting, transportation, others).

2.2.5 Corrective Actions

Generally, Corrective Actions are incorporated as activities to be executed in the Annual Operating Plan (POA) of the forest farms. This can occur at any time or at the end of the year in order to allocate the required resources and budgets.

[13] ANNEX V. Monitoring\Community and stakeholders\Documents: Proteak-2023 Social training report 1.pdf and Proteak-2023 Social training report 2.pdf.

PROTEAK has developed a procedure for corrective actions and nonconformities[14], with the objective of establishing a management system to a) guarantee an adequate response to nonconformities, b) evaluate the need to establish a corrective action to eliminate the causes that led to it, and c) if applicable, the implementation of the corrective actions and the review of their efficiency. corrective actions and the review of their efficiency.

2.2.6 Review of the evaluation system

The review occurs at any time that is required, however, for the purpose of this Social Impact Assessment, a review of the system at least once a year to ensure that they are responding to the requirements of the project.

2.2.7 Relevant Laws and Regulations Related to Worker's Rights

During the start of each verification event, the Project Proponent and the verifying entity: a) share and expose if there are any relevant laws and regulations covering workers' right; and b) the process of VERRA Program verification and the validation / verification body's site visit.

PROTEAK comply with all and any relevant local, regional and national laws, statues and regulatory frameworks.

Table 7. Relevant laws and regulations related to worker's rights

Law	Compliance issues
• Ley general de salud (Health Code)	This law regulates the right to the protection of health that every person has under the terms of article 4 of the Political Constitution of the United Mexican States, establishes the bases and modalities for access to health services, distributes services, distributes competencies and establishes the cases of concurrence between the Federation and federative entities in matters of general health.

[14] ANNEX V. Monitoring\ PRO-SG-AUD-03 Procedimiento de no conformidad y acción correctiva.pdf.

Law	Compliance issues
• Ley federal del trabajo (Labor Code)	The Federal Labor Law is of general observance throughout Mexico and governs the labor relations included in Article 123, Section A of the Political Constitution of the United Mexican States. The working day, labor risks, profit sharing, vacations, conflict conciliation and other topics can be found in this law.
• Reglamento sobre Higiene y Seguridad en el Trabajo (Federal ocupational safety and healt Regulation)	Regulates general conditions of hygiene and safety in the workplace regardless of the nature of the work.
Ley del Seguro Social (Social Security Law)	Guaranteeing the safety and health of citizens is a duty of the state and the legal basis for this task is in the Social Security Law. Its objective is the protection of the means of subsistence and social services necessary for individual and collective well-being.

Evidence of compliance with regulation regarding health and working conditions can be found through field verification and/or in the audit report of the evaluation for the forest management certified by FSC.

At the time of this report, no change is reported in any relevant laws and regulations covering workers' right or any new laws.

2.2.8 Information to Stakeholder on Verification Process

National legislation in México does not obligate project owners with activity in the VCS, CCB or FSC Standards, to communicate about the validation or verification process to any stakeholders, not even to national or regional governments.

Regarding to verification body’s site visit in a timely manner before the site visit occurs, an email and phone calls, are sending to all Project’s staff, in order to provide information about de Certification Body (name and contact), dates and, the farms that are going to be visited/audited.

Independent communication with communities and other stakeholders, also are happening, once the farm is selected to be visited.

During the visit, the auditor will have the opportunity to interview communities and other stakeholders, or their representatives, as needed.

2.3 AFOLU-Specific Safeguards

Table 4 resume all the comments and findings gathered during the environmental assessment and every stakeholder's consultation made for all the Project areas, with the correspondent mitigation action developed and executed during the monitoring period reported.

Local communities have positive attitude towards the project activity due to the following reasons:

- Increase incomes in the project zone: the objective of the Project Proponent is sustainable management of the project area. Low-income families in the area get more opportunities to increase their income; this is a support for their livelihood.

- New employment opportunities: skilled and unskilled labor is needed for this project. The Project creates direct employment opportunities in the establishment, maintenance, and monitoring.

- Knowledge of silvicultural techniques: the Project Proponent's staff have adequate experience and knowledge of sustainable management of teak, to transfer it to the local communities.

- Biodiversity protection: protecting biodiversity is an essential part of the commitment of PROTEAK to conduct the activities in a sustainable way. PROTEAK integrates compensation initiatives and environmental restoration that seek to strengthen the supply of environmental goods and services. Likewise, PROTEAK seeks to contribute to the development of the locality through the provision of spaces for the purposes of passive and contemplative recreation. The nursery of native species promotes proposals for plant restoration and generate habitats for native species.

PROTEAK works on strategies that meet its social responsibility considering the following stakeholders: collaborators, environment NGOs, suppliers, customers, local community, government and society.

PROTEAK creates and encourages programs for each group of interest. The company includes society and community members within the Support Program and Sports Program given to schools and clients. PROTEAK works with the various stakeholders by integrating them to the social and environmental responsibility principles.

The following are the programs for social support, during this monitoring period.

Table 5. Social support: activities and goals.

Activity	Goals and Results
Job	+400 of staff from communities.
MAQR mechanism	100% of collaborators informed about the mechanism of attention to complaints and feedback.
Complaint and comment attention	100% Complaints and comments handled in accordance with our MAQR care protocol.
Attention to the community	3 schools visited and supported.
Community services	3 communities served; 472 Inhabitants benefited.
Academic link program	6 agreements signed with universities through the Academic Linkage Program.
Campaign against Covid-19 CCC	Creation of a general health contingency plan.
	100% of staff informed about the prevention and early detection protocol.
	Implementation of measures and recommendations.
	Monitoring of security inspections through the Inspectory platform.
Implementation of work climate monitoring - NOM-035-STPS	100% of staff informed about the new psychosocial risk prevention policy and favorable organizational environment.
	100% of staff informed about the implementation of the work climate diagnosis.
	3 sites evaluated with diagnostic tool, 100% staff participation.
	100% of directive, managerial and managerial staff informed about the results obtained.
	1 general committee of attention to this norm created.

Within the environmental initiatives, PROTEAK is committed to the correct application and evaluation of the environmental management system-ISO 14001 (used as a guide but they are not certified) and the FSC Certification for forest management. Additionally, PROTEAK establishes programs for waste management and plague and fire control, using methodologies that are applicable to the region and the situation. PROTEAK commits as well with the protection and conservation of the biodiversity situated in the project area.

During the reported monitoring period, no negative offsite stakeholder impacts were identified. The project has not impacted critical ecosystem services negatively, areas fundamental for basic community necessities or traditional cultural identity have not been altered. The project has shown positive feedback towards the communities allowing some of the farm's resources such as wood

and infrastructure to be used, with farm authorization. The requests for support that have been made at any farm, have been evacuated according to the possibilities.

Project Proponent also informs that there was no displacement occurring due to the project activity

2.3.1 Environmental Impact

The Project Activity at every discrete land included, have a net positive impact on the environment given the change from pasture to teak tree plantations, recovering degraded soil. Also, the project area function as a buffer zone to rivers and natural reserve.

Regarding the environmental impacts related to this Project, a consolidated document is adjusted in order to provide the methodology to identify the environmental aspects and those that are significant, to evaluate and to control the risks and environmental impacts associated with the activities carried out by PROTEAK. Its purpose is to ensure that all labor practices, whether new or existing, routine or non-routine, are evaluated in terms of their environmental risks and impacts in order to determine the necessary actions, according to the Environmental and Social Management System[15].

The identification of the risks, aspects, and environmental impacts of each activity are done by the work teams involved in each activity (supervisor and workers) accompanied by the Social and Environmental Responsibility department of PROTEAK.

Evaluation of environmental risks and impacts is based on the magnitude of environmental risks and impacts (MERI). MERI is a parameter that defines the importance of a hazard and/or aspect and allows its classification in a hierarchical way to focus control efforts. Risk and impact reduction actions at acceptable levels to PROTEAK in any of its Project areas, take in consideration the following hierarchy of control:

- Elimination. - As a first action the elimination of any hazard originating any risk, opportunity, and environmental aspect must be considered.
- Substitution. - If elimination is not possible, then consider replacing the process or activity that contains the danger that originates from the risk, opportunity, and environmental aspect.

[15] ANNEX V. Monitoring\ Community and stakeholders\ PROTEAK-Monitoring plan 2021.pdf and PROTEAK-Monitoring plan 2022.pdf.

- Engineering control. - Establish controls whose objective is to implement barriers to separate people from dangers or change the equipment or tools of a process or activity to minimize exposure.
- Administrative control. - Information or warning to people about the presence of a danger, such as informative, warning or prohibition signs, alarms, safety sheets, etc.
- Personal protection equipment. - Personal protective equipment is the last measure taken when responding to occupational hazards and is used as a complementary measure.

2.3.2 Anti-Discrimination Assurance

The Fresh Breeze Project holds every individual involved in project design and implementation to a high standard of integrity, to ensure no one is involved in, or complicit in, any form of discrimination or sexual harassment with respect to the project[16]. This includes discrimination based on gender, race, religion, ethnicity, social class, or other aspects of human individuality[17].

Throughout the project duration, the Fresh Breeze Project will abide by all relevant Mexican labor laws and regulations. Further, the project has an equal opportunity policy that ensures that the project will not engage in or be complicit in any form of discrimination or sexual harassment. Project Proponent verify in every monitoring event, that individuals are employed without discrimination; this could be reflected by the employment of women in the farm for some activities, like nursery; however, the issue of their safety in the field when left alone is complicated, as well as the local custom of men not to let their wives work outside the home.

In addition, to ensure compliance, the project has a grievance system[18] in place that will provide all project employees, identified community members, and other stakeholders with a formal system if any discriminatory actions or sexual harassment does occur, to ensure grievances can be addressed quickly and appropriately.

[16] ANNEX IV. Plantation Management\Documents: Codigo de Etica Proteak.pdf, POL-06-01-01 Selección y contratación de empleados.pdf, POL-DHM-001 Politica de Reclutamiento, selección y contratación de personal.pdf, and

[17] ANNEX V. Monitoring\PolíticaAmbientalSocialSeguridadHigieneLaboral.pdf.

[18] ANNEX V. Monitoring\ Community and stakeholders\ PRO-SG-DHAS-05 Procedimiento de quejas y retroalimentacion externa.pdf and ANNEX IV. Plantation Management\POL-LEG-004 Política Gestión del canal de denuncias.pdf, and Presentación RSG - Linea Etica - Proteak - canal de denuncias.pdf

2.3.3 Grievances

For this monitoring report, no disagreement or dispute with any community is reported, as in previous years neither for the new Instances included. Based on the results of the surveys, it is recommended that PROTEAK have more meetings with its stakeholders in the areas where it operates, indicating the necessary procedures to be able to give their opinions and requirements.

The Project Proponent encourages open communication with local communities and stakeholders for all grievances to be reported through email. As mentioned in section 2.2.3, the Complaints and Feedback Mechanism -MAQR- aims to provide Stakeholders with an accessible and effective process to submit complaints, claims and/or concerns that may arise about the Project's activities. Furthermore, a complete and specific procedure[19] for resolving complaints, external feedback and conflicts in a transparent and comprehensive manner was developed by PROTEAK; is also used as an on-going communication system with local stakeholders and is publicly available at https://proteak.com/en/policies/. As the procedure states, verbally reported grievances will be documented by PROTEAK staff and submitted into the formal system for resolution. At project locations, grievance submission shall be recorded[20] and kept; received and resolved grievances which can be viewed upon request by project stakeholders or auditors.

Grievances will be assessed to identify and verify the cause, actors and scale of grievances, and a resolution will be recommended based on feedback from the stakeholders.

During stakeholder consultations, stakeholders have been informed of the proper way they can make grievances, contacting the project proponent through the official email provided or by contacting the farm manager.

2.3.4 Worker Training

Capacity building is critical for the operation of project. For the projects initiatives to succeed, members of the community need the skills necessary to effectively implement their tasks. Therefore, the project cannot only create additional employment but must provide the necessary training in the skills required to maximize production. Specific training is given for each job, in this induction each worker is told their job responsibilities and training is provided. Local capacity is not lost through staff turnover as it

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[20] ANNEX V. Monitoring\Social, community and environmental evaluation\ PROTEAK-Bitácora de seguimiento y atención a la comunidad 2022.xlsx.

is developed on the farms, as there are few skilled job opportunities in the region and once trained employees can work at other project and use their learned skills; most of topics, are updated annually and the Project activity is expected to continue throughout the project lifetime and beyond.

PROTEAK, attending the issues above described, prepares an annual Training Program[21]. This document plans the subject of the training, objectives, institution or person who provides the training and the group of interest to be included in the scope of the training.

Most of the trainings are face-to-face; however, after the COVID-19 pandemic, the modality of remote meetings has been used.

Table 6. Worker training topics

Silvicultural Production	
Objective: The personnel involved in the farm receives the technical training on good practices regarding the management of teak plantations	
Event/Milestone	Capacity building skills
Establishment and management of teak plantations	Criteria for selecting sites
	Techniques for planting
	Monitoring and measuring growth
Integrated Control of Plagues	Identification of plagues and local sickness
	Methods of biological control
	Methods of chemical control
Prevention, reduction and control of fires	Techniques for preventing fires
	Correct use and knowledge of the fire extinguishers.
	Techniques for fighting fires
	Use of equipment to control fires
Labor Environment	
Objective: The personnel involved in the farm is capacitated in security at the work place	
Event/Milestone	Capacity building skills
Worker Safety	Use of personal protection equipment
	Training in first aid, attention to hemorrhages, fractures, and transfer to a health center.
	Good use and handling of agrochemicals
	Training for machinery operators and mechanical maintenance personnel to recognize safety indications for equipment, as well as at a personal and professional level.
	Training what to do in the event of a lightning storms

[21] MR2022\ANNEX V. Monitoring\Training\PROTEAK-Programa de capacitación.xlsx.

Knowledge of Normative Medium	
Objective: The personnel involved in the farm is knowledgeable in the farms normative framework, related with the activities developed by the company for the projects purpose.	
Event/Milestone	Capacity building skills
International and National Norms	Norms related to environmental protection
	Laws linked to the productive activities of the farm
	Environmental Impact: Identification, monitoring and evaluation
	Use and transport of forest goods
Forest certification	Benefits of the forest certification
	Certification principles, criteria, and indicators
	Environmental auditing

Formal trainings are recorded[22]; most trainings that include daily training are generally provided by middle and senior management on daily topics related to Project activity, and are therefore not necessarily registered.

2.3.5 Community Employment Opportunities

All of the land was previously privately owned and used as pastureland for cattle or agriculture crop production. Therefore, any job lost due to the change in land use will be replaced due to the higher job demand from the teak plantations (up to 45 times more labor required per hectare, compared to livestock production[23]). Most workers are hired from nearby communities due to the investment of time in training the required skills for Project activity.

In addition, as stated in previous sections, project activity provide economic opportunities for local community (formal and permanent job opportunities). Project proponents want to ensure that individuals are employed without discrimination; this could be reflected by the employment of women in the farm for some activities.

To achieve this objective, PROTEAK has a procedure[24] for establishing the criteria and activities to be followed in the application for filling vacancies and hiring personnel.

[22] ANNEX V. Monitoring\Training

[23] ANNEX IV. Plantation Management\Document: PROTEAK assessment_Reconversión de potreros a plantaciones forestales comerciales sustentables.pdf

[24] ANNEX V. Monitoring\POL-06-01-01 Selección y contratación de empleados.pdf

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project plans reforest up to 15,000 hectares of degraded or degrading land with teak tree plantations. The teak plantations are being and will be implemented in the following geographic areas of México (states): Tabasco, Nayarit and Chiapas. The effective start date of the project is July 1st, 2009; it was the date of the first project activity, which is the preparation of the soil for the establishment of the first teak plantations within the project boundary.

In the previous monitoring report, 30 farms with 48 substrata[25] were reported. For this report, the Project Proponent is informing that 30 farms are the same participants, with 50 different substrata were assessed, in accordance with two substrata inclusion accomplished: San Pablo farm (planting year 2016) and La Laguna farm (planting year 2015). Given this, for this Monitoring Report, the thirteen farms participants were: Brasiles, Caoba, Cedros, El Pocito, Las Amapas, San Pablo, Santa Rosa, Tintal, Don Justi, El Abuelo, El Capri, El Diamante, El Zombi, La Laguna, Tacotalpa, Capitan, Cascada, Empeño 8, Victoria 7, Asterisco, El Rincon, La Estrella, El Establo, El Milagro, Nueva Pezuña, San Agustín, San Juan, Cuvadonga, Piedra Santa and Porvenir (see Table 2 of this report).

The measurement event described in this Monitoring Report was carried out on October 2021. The period of carbon removal measured was from January 1st, 2021 to October 30th, 2022.

Considering the inclusion, nowadays the project has established teak tree plantations on **5,338.94 hectares** of degraded and degrading lands where the traditional uses have been cattle grazing and croplands. The planting density of the plantations determines the real or effective planed area. This area excludes other vegetated areas within the project boundary such as creeks, border vegetation, and other small spots of vegetation.

Since the validation of the Project, PROTEAK is being the Project Proponent for project Fresh Breeze. Pablo Ignacio Domínguez, independent consultant, was the developer of the reporting and verification of the Project (RV), for the current report.

Since the last report, the leakage was counted as 0; given that the previous land use of the new farm included (San Pablo 2016 and La Laguna 2015) was grassland, leakage did not change for this reported monitoring period.

[25] Substrata is defined by farm and plantation year.

The non-permanence risk factors reflect one change at the Internal Risk assessment, mainly given by the application of one mitigation measure (Factor f), and given this, the risk factor is now 10%.

The total net removals generated in this Monitoring event were **57,756 ton CO_2 –e**[26].

Given the above explanation, the status of implementation of the project is underway. All the plantation's property can be assessed by the proof of titles in order to verify the fact of private property; these registries can be review during the verification audit. PROTEAK is not the sole owner. There are 27 properties (farms) owned by PROTEAK, which have their legal titles; also has for rent 3 properties: Cascada and Empeño 8; and it also has 1 property in trust: Tacotalpa.

There are no communities that were displaced from the region.

3.2 Deviations

3.2.1 Methodology Deviations

During this monitoring period, no methodology deviations were applied.

3.2.2 Project Description Deviations

The following deviations were informed and applied in previous monitoring reports, and the Project Proponent is not reporting any new deviation for this report; however as per VCS Standard requirement[27], the deviations already applied and approved, are also described in the current report.

3.2.2.1 Plot size

During validation activities, there was not an official procedure for the measuring, therefore, the plot size was established as an example in the methodology.

The change took place on February 17, 2015, through the publication of the evaluation of biological assets.

[26] After discounting buffer of 14% (Risk Assessment).

[27] VCS Standard v4.4, section 3.20.2.

The registered PD shows a plot size of 0.1 ha; however, the PP used a different plot size, according to the procedures for the valuation of biological assets. Since then, sampling plots are circular with a radio of 10 m; this corresponds to a plot area of 0.0314 ha.

In compliance with Section 3.20 of the VCS standard, it's confirmed that the deviation of the change of the plot size doesn't affect the applicability of the methodology[28], additionality or the appropriateness of the baseline scenario; the project remains in compliance with the applied methodology. PROTEAK by using the procedure demonstrated that the measurement complies with this data.

3.2.2.2 Thinning Period

Forest thinning is a technique that consists of gradually removing trees from a plantation to favor the growth of the best individuals. The objective is to achieve better quality and greater wood production, as well as to facilitate the management and use of the plantation.

Proteak manages its plantations based on dasometric data and makes decisions about silvicultural treatments based on this; that is why the network of permanent sampling plots -PSP- exists in all properties. This is important to understand, since Proteak requires precise and accurate information for decision making, so the PSP network must function as the best way to sample the reality of the plantations; the PSP must be, above all, representative.

As established in the validated PD, the project established that the first thinning period would be in year 7; however, some plantations during the third year carried out the first thinning event. The reason for this change is due that teak trees could be affected by the growth of other plant species that could appear as a product of natural dispersal or seed bank that develops resilience and that can appear during the development of the plantation. The adaptive action seeks to improve the forest health of the crop.

It must be clarified that the volumes shown in the volumes thinned file do not represent commercial thinning processes in the plantations, i.e., the activity carried out is not for economic income but for forest management.

Regarding the requirements of the standard, the project's additionality is not affected by two reasons:

[28] Applicability conditions are not related to the plot size.

a) The additionality is based on the analysis of common practice by species and capacity where it was shown that the project is unique on its class with such dimensions and commitment.

b) The wood obtained from thinning, has no commercial value, therefore there is no benefit.

The change in the thinning period does not affect the applicability conditions or additionality. On the issue of emissions from baseline values are used for posting post thinning, therefore, the loss of carbon already been taken into account in the monitoring reports since then.

During the period evaluated, the following properties are reported to have undergone thinning:

- Zombie

- Rincon

- Milagro

- Primor

- San Agustin

- San Juan

- Diamante

- Don Justi

- Tacotalpa

The impact of these thinnings on GHG removals has been reflected in the volume of biomass measured by the PSPs; thus, and since the plots are permanent, the removal of biomass in the plantation has been reflected in the volume reported by the PSPs, as these are representative and have undergone the same silvicultural treatment as the rest of the plantation.

3.2.2.3 Project longevity and crediting period

Originally, the project longevity was established to be 56 years in the PD; however, in accordance with the subsequent report from validation, the new project longevity and crediting period was settled as 50 years both, given the duration of teak plantation cycle (2 cycles of 25 years each) and the appropriateness of this time frame with the management procedure determined in the plantations.

Regarding the requirements of the standard, the projects applicability is not affected because the characteristics and parameters of the land remain the same and these conditions are not related to the time frame of the project longevity. Furthermore, compliance VCS standard is assured given that the deviation in project longevity does not affect the additionality or the appropriateness of the baseline scenario, saying that it is confirmed that the project remains in compliance with the applied methodology.

3.2.2.4 Evidence of the previous land use

According to what was validated in the PD, the Project Proponent must evaluate the baseline and leakage for every new instance included in the Project; it was established that all the plantations were and will be grassland, and in some portions, for agriculture use, therefore these emissions are not considered in the project activity; this assumption has to be supported with the photo of each plantation. In this way, photographs serve as evidence to establish the above.

As an improvement action, and since this monitoring report, the following deviation is requested:

The Project should use appropriate, specific and reliable source of information to be able to demonstrate previous land use; instead of photographs of the properties, corresponding to the baseline (prior to plantation establishment) as an improvement action that seeks to reduce the uncertainty regarding the assessed (previous land use in the participating properties), it is proposed to use cartographic/geographic information, appropriate and elaborated specifically for the host country, as a verifiable and reproducible source of information.

For such improvement action, and for this evaluation period as a consequence, until better information is available, the PP proposes the following:

1) Geographic information on land use and vegetation - INEGI - Mexico - 1997: the data contained in the Land Use and Vegetation vector datasets, scale 1:250,000, year 1997, were obtained through the use of digital technology for geographic information management, with methodologies and processes designed by the National Institute of Statistics and Geography of Mexico (INEGI), and in compliance with technical standards. This product was generated to meet demands for geographically referenced information on vegetation cover and land use: vegetation types, current vegetation status, types of agriculture, crop permanence, etc.

The information is structured and covers the entire national territory, ensuring the geometric consistency and continuity of the vector elements, enabling its adaptation to various application

packages in geographic information systems. The geographic referencing of the information allows the dataset to be integrated with other vector or raster datasets, such as digital elevation models or remotely sensed images. In general terms, the information generated for 1997 is as follows:

- Vegetation types by ecological affinity and floristic composition.

- Vegetation status according to the size of the species present in the successional stages of the vegetation cover recovering after the destruction or modification of the original vegetation.

- Types of agriculture according to water availability during the agricultural cycle.

- Types of crops by their duration on the land during the agricultural cycle.

- Specific information on representative botanical species of the vegetation cover.

- Specific information on specific crops present in agricultural areas.

The technical characteristics of this information are:

Scale: 1:250,000

Resolution: 1 m

Dimensions: Two-dimensional

Cartographic projection: Universal Transverse Mercator (UTM)

Coverage: 1° latitude by 2° longitude

Geodetic reference system: NAD27

Units: meters

Data types: Vector

Transfer formats: Shapefile.

2) Orthophotograph Mexico - INEGI - since 2000: This is a photographic presentation of an area on the earth's surface, where all elements are at the same scale, free of errors and distortions, and with the same validity as a cartographic plan. It is referenced to a cartographic projection, and therefore has the geometric characteristics of a map.

The orthophotos generated by INEGI are geometrically corrected images, moving them from a central projection to an orthogonal projection and referenced within a cartographic frame.

In the case of the Project, these orthophotos have been taken for Mexico in several years. Therefore, the Project has the possibility of using these images from years prior to generation, starting in 2010. This other source for determining previous land use is an alternative and complementary source:

a) an alternative source in case the 1997 INEGI images are not available for all the properties included in the Project or are not sufficient to determine the land use;

b) complementary source: because the results obtained can be corroborated by superimposing the polygons of the project areas with the 1997 INEGI land use map.

Given that these information is official and generated specifically for the entire host country of the Project (México), it is considered appropriate, generated by an official source, and specific, and therefore, it is proposed to use the information generated for vegetation types and land use, in order to document and evidence that the land use of each Project site is in compliance with what is described in the PD, i.e., that they were grasslands before the implementation of the Project activity and, therefore, these emissions are not considered in the project activity.

The proposed to demonstrate the above is by superimposing the polygon of each Project site on the layers of these maps and shapes, in order to determine the type of land use, prior at least 10 years to the establishment of teak plantations, generating a map where the properties (sites) are located with the consequent determination of the previous land use.

Taking into consideration the definition of the VCS Standard v4.4, about Project Description Deviations "Projects may deviate from the validated project description in certain cases in order to accommodate changing post-validation circumstances, and that such deviations must be described and assessed by a validation/verification body during the next project verification", the PP makes the following assessment:

The deviation required, do not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, furthermore, what is requested, serves to improve the type of evidence to determine the previous land use, and it does not make a re-evaluation that modifies methodology, additionality or the baseline scenario. Therefore, and in accordance with the VCS Standard, the deviation is described and justified in this monitoring report, and also, will be reported on in all subsequent verification reports.

In addition, with this project description deviation, the PP states that is not looking for a change to a different methodology.

3.2.2.5 New consultant prepares monitoring report

As mentioned in section 1.4 of this document, in order to prepare this monitoring report, the consultant originally declared in the PD was changed; the PP decided not to continue collaborating with the same consultants who were hired to prepare the PD and subsequent monitoring reports, and instead, they have hired the professional services of Pablo Domínguez, a person who has extensive experience as a developer and independent auditor of AFOLU carbon projects[29].

Project Proponent develop the project activities within instances (farms), there are no other entities involved in the Project. Pablo Domínguez was hired as the specialist MRV (Monitoring, Reporting and Verification), to develop this report; this deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in conformance with the applied methodology.

3.3 Grouped Projects

Every discrete area of land included in the project boundary was eligible for an ARR project activity as demonstrated by the application of the CDM tool "*Procedure to demonstrate the eligibility of lands for afforestation and reforestation CDM project activities*" V01.

In order to be eligible and correspondingly included in the Fresh Breeze Project, all project instances must comply with the requirements based on the CDM methodology "*Afforestation and reforestation of lands except wetlands,* Version 1.0.0 (AR-ACM0003)"; and the VCS grouped project requirements. All included project instances have undergone a pre-feasibility study, carried out before inclusion.

3.3.1 New Project Areas

For this report two inclusions are reported (two substrata):

a) The farm San Pablo, plantation 2016, was included to the Project boundary; and,

b) The farm La Laguna, plantation 2015, was included to the Project boundary in this 2022 report.

[29] ANNEX VIII. Risk analysis\1) Project Management\Risk factor c)\ 2) MRV consultant - Pablo Domínguez cv.pdf.

3.3.2 Removed Project Areas

No remotion or exclusion of Project area has occurred during the monitoring report period.

In the case of both new substrates included in this report (La Laguna farm plantation year 2015 and San Pablo farm plantation year 2016), these plantations were generated from the renewal of portions of pre-existing plantations due to poor tree growth; that is why the areas of these farms and their substrates were updated. The eligibility of both substrates had already been demonstrated at the time of including the original plantations.

3.3.3 Eligibility Criteria for Grouped Projects

As mentioned above, every discrete area of land included in the project boundary was eligible for an ARR project activity as demonstrated by the application of Project boundary definition, Methodology requirements, CDM and VCS Eligibility Requirements.

The results of the assessment include:

Methodology requirements

In accordance with "*Afforestation and reforestation of lands except wetlands*, Version 1.0.0. (AR-ACM0003)" the methodology is applicable under de the following conditions:

1. The land subject to the project activity does not fall in wetland category;

2. Soil disturbance attributable to the project activity does not cover more than 10 percent of area in each of the following types of land, when these lands are included within de project boundary:

    a. Land containing organic soils;

The project activity site does not include organic or drained soils as established in the Management Plan[30].

    b. Land, which in the baselines, is subjected to land-use management practices and receives inputs with or without manure, accordingly to the climate region.

[30] ANNEX IV. Plantation Management\Management Plan-Proteak Uno 2021-2025.pdf.

The new Project Activity Instance also complies with the applicability conditions of the tools related within the methodology and applied by the project activity.

i. These plantations are managed under the same parameters, technologies, and inputs hold by the other plantations included in this Project.

For each plantation a series of activities are carried out in order to promote the best growth of each individual. The activities followed are consolidated into two main processes: preparation of the terrain and maintenance; management plan[31] includes the specification of these activities.

The land selected for plantation of teak has optimal conditions for the development of this kind, which are:

- Height: between 0 and 800 masl (meters above sea level).
- Soil: rich in calcium, flat and well drained.
- In the rainy season: between 1.500- and 2.500-mm annual rainfall or older.
- Dry season: with a minimum of 10 to 50 mm of rain, with a maximum of 3 months.
- Requires climates with a distinct dry season (3-5 months), with annual average temperatures between 22 and 28°C, an average annual rainfall of 1.250 to 2.500 mm and altitudes between 0 and 1.000 meters.

In summary, teak is a specie that has one of the best growths of tropical wood, also it is the most likely to be planting, due to its resistance to fire, pests. Likewise, PROTEAK has detailed a maintenance plan in order to obtain the best possible production of wood. The lifetime of the project activity depends on the harvest/cutting cycle of the Teak which is 25 years. The project considers two cycles which in turn establishes a project time frame of 50 year.

ii. Applies the parameters, technologies, and inputs in the same manner as specified in the project description.

iii. Are subject to the baseline scenario for the specified project activity and geographic area.

[31] ANNEX IV. Plantation Management\Management Plan-Proteak Uno 2021-2025.pdf.

iv. Have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area.

a. In compliance with the requirements of the standard, the project's additionality is not affected because:

i. The additionality is based on the analysis of common practice by species and capacity where it was shown that the project is unique in its class with such dimensions and commitment.

ii. The change of the area affects the emission removals and those changes have been applied to ER calculation.

VCS Eligibility Requirements

The Project proponent, has defined the following eligibility criteria to be performed by every project activity instance for the inclusion in the Fresh Breeze Project in order to meet VCS grouped project requirements:

1. Project activity instances are subject to the same or at least as conservative, baseline scenario and, rationale for the demonstration of additionality as the initial Project activity instances.

a. The establishment of teak forest should be implemented in degraded and/or degrading lands, which are expected to remain degraded or in a degrading process in the absence of the project; hence the land cannot be expected to revert to a non-degraded/degrading steady state without human intervention.

Project activity is established on degraded lands in accordance with SEMARNAT[32], Mexico; the causes of the degradation is overgrazing. The new evidence that is presented since the current report (results of the assessment of this information presented for every farm included in the Project), is available on ANNEX II. Project Activity Instances; it includes each project area polygon at every farm in relation with the national information of SEMARNAT of the assessment of degradation. It is conclusive, for all the discrete project areas included, that were classified as degraded, before project star date.

[32] https://www.gob.mx/semarnat. Ministry of the Environment and Natural Resources

The project areas were zones of deforestation and environmentally degraded terrains, and were left without any primary vegetation; in addition, plantations are exclusively established on areas classified as grasslands and secondary bush vegetation. The areas with primary forest, riparian vegetation or areas with high slope, were not included in the plantation's establishment.

In the section of soils of Management Program, it is established that these plantations present four classifications of soils: Cambisols, Gleysol, Rendzine, and Regosols. They are usually present with temperate vegetation, particularly with forest species. Due to their high susceptibility to degradation and erosion, these are recommended for forestry use.

b. Ten years prior to teak forest establishment, project areas shall not have natural forest or native ecosystem or reforested coverage (including forest plantations and agroforestry, *e.g.* cocoa, coffee, rubber) at instance level.

In accordance with the new evidence presented since the current report (results of the assessment of this information presented for every farm included in the Project), available on ANNEX II. Project Activity Instances, and required as a PD deviation (section 3.2.2.4 Evidence of the previous land use, of this report), none of the included discrete areas, had natural forest or native ecosystem or reforested coverage; if an area did no complied with this requirement, then, it was not included as Project area.

c. The establishment of teak forest shall be occurred in the period between 2009 (July 1st) and 2058 (June 30th).

The new substrata are plantation established on years 2015 and 2016. In the case of both substrates, these plantations were generated from the renewal of portions of pre-existing plantations due to poor tree growth; that is why the areas of these farms and their substrates were updated. The eligibility of both substrates had already been demonstrated at the time of including the original plantations.

d. The teak plantations shall be implemented in the geographic area of the host country within specific states: Tabasco, Chiapas and Nayarit.

New substrata included (San Pablo 2016 and La Laguna 2015) are in Tabasco state.

2. Project activity instances part of Fresh Breeze Project are not permitted to convert native ecosystems to generate GHG credits[33].

As demonstrated with the photos of each of the plantations, the land of the project activity was not part of a native ecosystem; in most of the cases the land has not had a specific use, while in some cases, it was used for cattle.

3. Project instances must have official documentation supporting the right of use of land.

Appropriate land tenure evidence is available for the two new substrata, given that both included were part of a farm (instance) already evaluated in previous monitoring reports.

4. The project activity is reforestation with teak tree forests. The tree species for reforestation is *Tectona grandis*.

Plantations in San Pablo farm (2016) and La Laguna (2015) were established using only the teak specie.

5. Project area must commit to follow the monitoring regime describe in the operational procedures provided by the Project Proponent.

Due to the fact that the new two substrata are in a farm property of PROTEAK, the operational procedures of the monitoring plan, are applied as to the rest of Project areas.

6. The Project participant must be committed to comply with sustainable or responsible forest management standards and get certified, in order to demonstrate social and environmental benefits beyond GHG removals. Once the standard is sufficient to demonstrate the social and environmental benefits, it can be international recognized or locally developed.

New substrata are included of the scope of the FSC certification; the farms (San Pablo and La Laguna) were already certified by the time of the plantation establishment.

7. Any Fresh Breeze project area, will not be issuing GHG credits above the long-term average (LA) GHG benefit.

The LA is dully updated at every monitoring event, in order to avoid any exceeded of GHG credits.

8. Leakage shall be assessed for each new project area.

[33] See document: ANNEX II. Project Activity Instances\MR2022-Additionality-Previous land use assessment.xlsx

The new substrata, as the previous Project areas, were established in lands, as grasslands as previous land use; therefore, these emissions are not considered in the project activity, in accordance with the PD assessment validated.

Leakage is defined as any increase in GHG emissions that occur outside the project boundary (but within the same country) and is measurable and attributable to the project activities. The three types of leakage are:

a) Market leakage occurs when projects significantly reduce the production of a commodity causing a change in the supply and market demand equilibrium that results in a shift of production elsewhere to make up for the lost supply.

The land of the project activity did not have any production of a commodity or something that can be involved with the leakage condition. This is stated in the section Types of Vegetation and Existing Vegetation, and in section Surface planes of the management plan.

The areas where the plantations are developed over zones of deforestation and were maintained without any primary vegetation, classified as grasslands and secondary bush vegetation. In addition, areas with primary forest, riparian vegetation, and high slope were not included as plantation area.

According to the deviation requested in this report (section 3.2.2.4), and the evidence presented[34], it can be determined that all of the properties included in the project are classified, according to the Geographic Database of the National Environmental and Natural Resources Information System of Mexico (SNIARN), as grassland/savanna. This information/classification, which results in a land use and vegetation map from 1997, corresponds to at least 10 years before the start of the Project activity, which was 2009. When the project activities began, these grasslands were abandoned.

Each property included in the Project was over-positioned in this available information, being this hereinafter, the proof that the previous use did not generate leakage.

b) Activity-shifting leakage can result from, inter alia, the shifting of grazing animals, shifting of households or communities, shifting of aqua cultural or agricultural activities, or shifting of fuelwood collection (from non-tree sources). Leakage emissions may also result from transportation and machinery use.

[34] ANNEX V. Monitoring\Leakage\Documents: Vegetation Map 1997 Chiapas.pdf, Vegetation Map 1997 Nayarit.pdf and Vegetation Map 1997 Tabasco.pdf.

The project activity is not related with the shifting of grazing animals or households or communities, therefore, this condition is neglected. This is stated in the Sections Tipos de Vegetación and Vegetación Existente in the Management Program.

These regions of Tabasco, Chiapas, and Nayarit were livestock areas, but the terrain was bought without the need to move any animals. In these plantations and following what it is stated for each already validated plantation, owners did not have any cattle present on the area and were abandoned grassland fields; only one area had cattle (Tacotalpa) and was bought and integrated to the project after their previous owner sold or moved the livestock; the leakage is accounted as zero.

c) Ecological leakage occurs in WRC projects where a project activity causes changes in GHG Emissions or fluxes of GHG emissions from ecosystems that are hydrologically connected to the project area.

The project activity is not developed as a Wetland Restoration and Conservation project; therefore, thus, this leakage is not included.

As an overall conclusion, these inclusions do not affect the applicability conditions or additionality; given this, these areas were taking into account for the calculation of the emissions reductions.

3.3.4 Scalability Limits for Grouped Projects

The project plans to reforest up to 10,000 hectares of degraded or degrading land with teak tree plantations meeting the eligibility criteria established for this grouped project. PROTEAK is responsible in each project instance for the performing management activities and ensuring the sustainability of their plantations, as well as their respective roles in the project monitoring. The scalability of the project may be limited by financial resources however, all new instances have a financial plan and activity schedule to ensure the development of the project and ability to meet climate, social and biodiversity benefits.

The inclusions at this report, have fulfilled all the requirements (Eligibility criteria and VCS and requirements); the Project has reached with this inclusion, 5,402.69 has, not exceeding the amount estimated in the Project's PD. Project activities have been accomplish accordingly to the planned and, for the inclusions, the PROTEAK financial analysis allowed to determine the economic viability for this farm, demonstrating that there is no limit for the execution of activities.

3.3.5 Risk Mitigation for Grouped Projects

None of the planned project activities foresee any negative impacts on the community and environmental values assessed during the initial stakeholder's consultation; this is clearly concluded after: a) the environmental assessment made; and b) in accordance with every stakeholders' consultation made for all the Project areas.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	D_j
Data unit	T d.m. m^{-3}
Description	Density (overbark) of tree stem for tree species j
Source of data	The value is estimated by the following formula: Dj = Dwood, j * (1 - %Barkvolume) + Dbark, j * %Barkvolume Where: Dj= Density (overbark) of tree species j; t d.m. m-3 Dwood,j = Basic wood density of tree species j; t d.m. m-3 Values from Table 3A.1.9 of IPCC GPG- LULUCF 2003 are used unless transparent and verifiable information can be provided to justify different values %Barkvolume = Volume of tree trunk that is made of bark; %. Default value of 15% is used unless Transparent and verifiable information can Be provided to justify a different value. Dbark,j = Density of bark of species j; t d.m. m-3 Default value of 0.4 is used unless transparent and verifiable information can be provided to justify a different value
Value applied	0.485 t.d.m/m^3
Justification of choice of data or description of measurement methods and procedures applied	This Data/Parameter is used in Equation (1,14) of the Methodological tool "*Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities*"
Purpose of Data	Calculation of baseline emissions
Comments	n/a

Data / Parameter	$BEF_{2,j}$
Data unit	Dimensionless
Description	Biomass expansion factor for conversion of stem biomass to above-ground biomass for tree species or group species j
Source of data	IPCC default values (Table 3A.1.10 of IPCC GPG-LULUCF 2003)
Value applied	1.3

Justification of choice of data or description of measurement methods and procedures applied	The data is chosen according to the climate zone (tropical) and forest type (pines). It is considered the value of pines due to is the most conservative value (lowest value of the table) the other value of the table 3A.1.10 is 3.4 for Broadleaf Forest type.
Purpose of Data	Calculation of project removals
Comments	-

Data / Parameter	R_j
Data unit	Dimensionless
Description	Root-shoot ratio for species or group of species j
Source of data	The value of Rj is calculated as Rj = exp[-1.085+0.9256*ln(A)]/A, Where: A is above-ground biomass (t d.m. ha-1) [Source: Table 4.A.4 of IPCC GPG-LULUCF 2003] The value of the above-ground biomass is obtained with the information of Proteak.
Value applied	0.31
Justification of choice of data or description of measurement methods and procedures applied	The value calculated was using the most conservative value of above-ground biomass. The calculation model shows the conservative approach.
Purpose of Data	Calculation of project removals
Comments	-

Data / Parameter	$SOC_{REF,i}$
Data unit	t C ha^{-1}
Description	Reference SOC stock corresponding to the reference condition in native lands (i.e. non-degraded, unimproved lands under native vegetation normally forest) by climate region and soil type applicable to stratum i of the areas of land
Source of data	Table 3 of "*Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM Project*" activities. The value selected is taking into account the High Activity Clay soil and the tropical wet weather.
Value applied	44

Justification of choice of data or description of measurement methods and procedures applied	For the calculation of this value is used official information of the INEGI[35]. The main soils related to the project plantations are: Gleysol, Rendzine, Regosols, Cambisols. In the case of Regosols and Cambisols the tool classifies these soils such as High Activity Clay (HAC), in the case of the Gleysol and Rendzine are considered as lands where the clay percentage is 24 and 29%, respectively, those lands can be considered as Low Activity Clay (LAC). However, in order to be conservative, it is considered the default reference soil organic C stock to be as tropical wet and HAC soil due to the reference value is the lowest (conservative assumption).
Purpose of Data	Calculation of project removals
Comments	-

Data / Parameter	$F_{IN,i}$
Data unit	Dimensionless
Description	Relative stock change factor input regime (e.g. crop residue returns, manure) in stratum I of the areas of land.
Source of data	Table 6 of "*Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM Project*" activities. The grassland is considered without input of fertilizers, according to the tool it is assigned an input factor of 1.
Value applied	1
Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of Data	Calculation of project removals
Comments	The value is considered with a low use of manure.

Data / Parameter	fMG,i
Data unit	Dimensionless
Description	Relative stock change factor for baseline management regime in stratum i of the areas of land; dimensionless

[35] INEGI. Instituto Nacional de Estadistica y Geografía. Principales Tipos de Suelo. Available at: http://mapserver.inegi.gob.mx/geografia/espanol/datosgeogra/fisigeo/suelos.cfm

Source of data	Table 6 of "*Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM Project*" activities. It is considered as a severe degraded level, the lands are identified as degraded lands using the "*Tool for the identification of degraded or degrading lands for consideration in implementing A/R CDM project activities*" Stage 1 of the tool requires the PP to screen the lands of the project to determine whether the area has been classified as "degraded" under any verifiable local, regional, national or international land classification system or credible study produced within the last ten years. In this case is used the report of SEMARNAT (National Environmental Agency) that demonstrates the soil degradation of the country. The maps 3-2 (page 118), 3-3 (page 119) and 3-4 (122), show that the regions of the project activity fall in the category of degraded and the causes of the degradation is past overgrazing
Value applied	0.7
Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of Data	Calculation of project removals
Comments	-

Data / Parameter	$f_{LU,i}$
Data unit	Dimensionless
Description	Relative stock change factor for baseline land use in stratum i of the areas of land
Source of data	Table 6 of "*Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM Project*" activities. According to the tool, all permanent grassland is assigned a land-use factor of 1.
Value applied	1
Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of Data	Calculation of project removals
Comments	-

Data / Parameter	Volume table or equation
Data unit	m^3
Description	Volume table or volume equation that predicts stem volume on the basis of one or more measurements of the tree.

Source of data	Estimation of aboveground biomass using aerial photogrammetry from unmanned aerial vehicle in teak (Tectona grandis) plantation in Thailand. 2020. University of Bangkok. Volume 21 No.6
Value applied	The volume is a variable that depends on the basal area of each individual, in turn this variable (basal area) depends on the diameter of each tree, which is why the volume (m3) is different in each tree
Justification of choice of data or description of measurement methods and procedures applied	The equations are the following and depend on the Diameter and the Height of the tree. For Stem biomass (WS): Log WS = 0.9797 log (D2H) – 1.6902; r2 =0.9930 For Branch biomass (WB) : Log WB = 1.0605 log (D2H) – 2.6326; r2 =0.9567 For Leaf biomass (WL) : Log WL = 0.7088 log (D2H) – 1.7383; r2 =0.8523 According to the tool "*Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities*", for ex ante estimation of aboveground tree biomass in project scenario any allometric equation can be used.
Purpose of Data	Calculation of project removals
Comments	-

4.2 Data and Parameters Monitored

Data / Parameter	Ap,i
Data unit	Ha
Description	Area of sample plot in stratum i
Source of data	Field measurement
Description of measurement methods and procedures to be applied	The center of the plot was marked with the assistance of a GPS. One staff member stayed at the center of the plot taking notes of the diameters and heights measured while the other expert of the team walked inside the plot measuring them. Both experts were always connected with a measuring tape in order to determine a radio of 10 meters.
Frequency of monitoring/recording	Every monitoring event.
Value monitored	During the monitoring period 1,506 plots were measured during the measurement event.
Monitoring equipment	NA

QA/QC procedures to be applied	Quality control/quality assurance (QA/QC) procedures prescribed under national forest inventory are applied. In the absence of these, QA/QC procedures from published handbooks, or from the IPCC GPG LULUCF 2003, may be applied.
Purpose of the data	Calculation of emissions reductions
Calculation method	The area of a plot is the area of a circle, pi()*r^2 =314.16 square meters.
Comments	Sample plot location is registered with a GPS and marked on the project map.

Data / Parameter	DBH
Data unit	cm
Description	Diameter at Breast Height of tree
Source of data	Field measurement
Description of measurement methods and procedures to be applied	DBH is measured at 1.3 m above ground, over the bark. In case of stem deformation at this level (knots, forked trees, etc.), measurement was done over the deformation once the stem takes its normal shape, with the purpose of being conservative. DBH was measured in all trees within the plots.
Frequency of monitoring/recording	Prior to the verification process, measured all the DBH within the plots.
Value monitored	25,936 trees have been measured in year 2022. DBH varies as per measurements taken on site.
Monitoring equipment	Rule to measure the height of 1.3 meter, once it has the height, a tape (forest type) is used for the circumference of each tree.
QA/QC procedures to be applied	A quality control procedure consisted in staff member periodical training. The staff members were trained to make DBH measurements without errors: using firstly a rule (to determine exactly where 1.3 meters height is located in their own bodies). Afterwards, they measured DBH in front of experts and member´s staff to achieve procedures consistency. There is a responsibility for the field coordinator to verify that the measures and the registration of the information is consistent.
Purpose of the data	Calculation of project emissions
Calculation method	To obtain the diameter is calculated with the formula Circumference= pi ()*Diameter Diameter = Circumference/pi()
Comments	n/a

Data / Parameter	H
Data unit	M
Description	Height of trees
Source of data	Measured directly at field.

Description of measurement methods and procedures to be applied	Total height of trees is measured from the base of trees to the highest part of the tree's canopy. Hypsometer is necessary; if a hypsometer is being used, it must be done following the instrument manual. Special training must be given to the crew member in charge of using this instrument.
Frequency of monitoring/recording	Prior the verification process.
Value monitored	25,936 trees have been measured in year 2022; see document "PT-FB-MR2022 measurement and calculation.xlsx." for all the values.
Monitoring equipment	Hypsometer was used during the field measurements to obtain the data.
QA/QC procedures to be applied	When referring to this electronic device, it was checked for the correct visualization of the display. The hypsometer was always kept in safe places in order to avoid display rupture. The equipment was always full of batteries and back up batteries were always available in case of emergency. Make control measurements using all involved equipment (human error should be minimized at minimum with well training and cross-checked control measurement activities).
Purpose of the data	Calculation of project emissions
Calculation method	n/a
Comments	-

Data / Parameter	T
Data unit	Year
Description	Time period elapsed between two successive estimations of carbon stock
Source of data	Recorded time
Description of measurement methods and procedures to be applied	n/a
Frequency of monitoring/recording	n/a
Value monitored	01-January-2021 to 31-October-2022 Total of 1.83 year.
Monitoring equipment	n/a
QA/QC procedures to be applied	n/a
Purpose of the data	Calculation of project emissions removals
Calculation method	n/a
Comments	-

Data / Parameter	Volume table or equation
Data unit	m^3

Description	Volume table or volume equation that predicts stem volume based on one or more measurements of the tree.
Source of data	Publication of University of Bangkok
Description of measurement methods and procedures to be applied	The equations are the following and depend on the Diameter and the High of the tree. For Stem biomass (WS): Log WS = 0.9797 log (D2H) – 1.6902; r2 =0.9930 For Branch biomass (WB): Log WB = 1.0605 log (D2H) – 2.6326; r2 =0.9567 For Leaf biomass (WL): Log WL = 0.7088 log (D2H) – 1.7383; r2 =0.8523 According to the tool "*Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities*",for ex post estimation of aboveground tree biomass an allometric equations is valid if: The equation was derived from a data set of at least 30 sample trees, and the value of coefficient of determination (R2) obtained was not less than 0.85[36].
Frequency of monitoring/recording	Before every verification event.
Value monitored	EB 65 Report Annex 28 A/R Methodological Tool "*Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities (Version 01.0.0)*"; II. Appropriateness of allometric equations
Monitoring equipment	n/a
QA/QC procedures to be applied	Quality control/quality assurance (QA/QC) procedures prescribed under national forest inventory are applied. In the absence of these, QA/QC procedures from published handbooks, or from the IPCC GPG LULUCF 2003, may be applied.
Purpose of the data	Calculation of project removals
Calculation method	n/a
Comments	These formulas are considered as globally applicable data, therefore, are valid for the project activity
Frequency of monitoring/recording	Before every verification event.

[36] Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities. https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-17-v1.pdf

4.3 Monitoring Plan

The aim of the Monitoring Plan is to record and measure a number of different parameters in order to ensure that the project followed the corresponding methodology in the validated and registered PD and that the inputs to the carbon calculations are both accurate and up-to-date.

Monitoring event comprised gathering information, performing calculations and making estimations of GHG removals. In this monitoring event, it is ensured that commonly established principles of forest inventory and management were put into practice. All data gathered as part of the monitoring plan was archived electronically and in hard copies and will be kept at least for two years after the end of the crediting period.

PROTEAK has developed a specific procedure[37] for tree measurements in the field; this procedure:

- details the structure, responsibilities and competences of the measurement teams;

- describes the methods for measuring tree dasometric and stem quality variables, collecting/recording the measured data in real time and transferring the data for further processing and analysis; and

- flow chart of the complete process.

Proteak is a company listed on the Mexican Stock Exchange, given that, it is audited annually by a third party; the auditors are independent and are hired by the Audit Committee which reports to the Board of Directors. For the field activities and the monitoring plan, the professional in charge of carrying out the supervision and recording of the activities is the "Inventory Manager", who is in charge of:

- Coordinate forest inventory
- Carry out forest inventory
- Process forest inventory information and reports

The organizational structure of the personnel that carried out the follow-up activities is presented below:

[37] ANNEX V. Monitoring\PRO-FOR-INV-002 Procedimiento toma física de inventario.pdf.

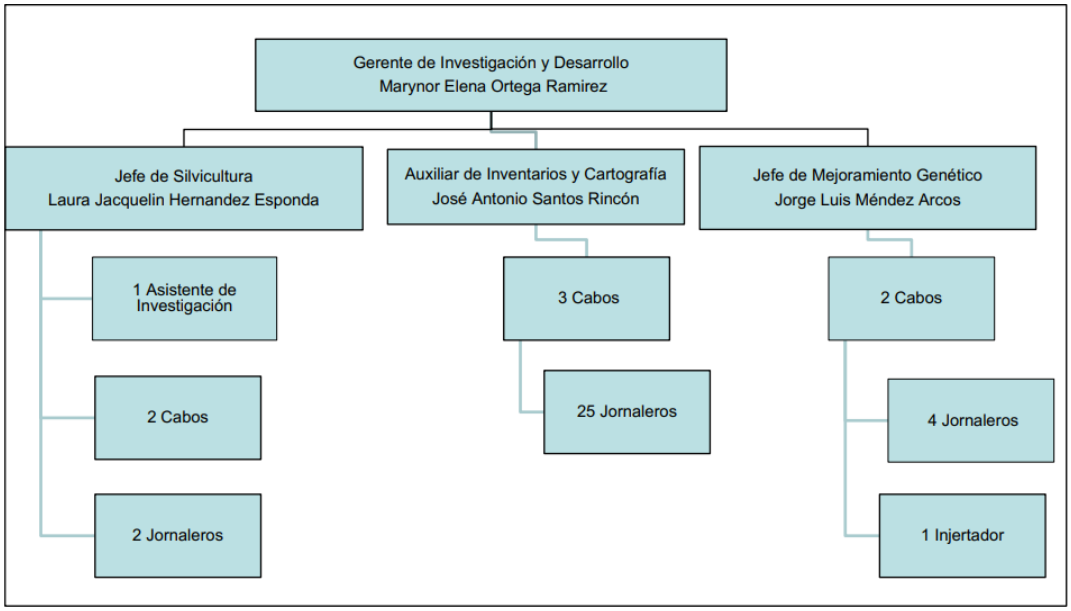

Figure 2. Monitoring department-crew structure

The monitoring plan aims to:

1) Define indicators that allow the collection and analysis of information in a reliable way to evaluate the degree of performance of the project in the environmental, socio-economic, and silvicultural components within its management units.

2) Guide project staff in planning and preparing the Annual Activity Plan based on the prevention and mitigation of negative impacts that may be caused by the management and use of forest plantation activities.

3) Comply with the requirements of VCS.

The field data is statistically processed following data controls that are performed when planning, with 10% statistical error. After the data capture, a DBH and total height filtering is performed, and the deviation of the values is calculated, and the confidence limits are estimated with a 5% error. These limits are considered to determine the volumes to be obtained in the future.

4.3.1 Sampling design and stratification

Project boundaries are defined at the beginning of project activity and updated along the crediting period. Boundaries may vary or new strata may be created after disturbances effects (pests,

droughts, fire) and boundaries will be redefined; for the current monitoring event, no disturbances or changes in the Project boundaries are reported given the above causes, however, it is reported the inclusion of two substrata (San Pablo 2016 y La Laguna 2015) at two Project sites (San Pablo and La Laguna farms) with already substrates included in previous reports. Geographic coordinates are established for all the Project boundaries; recorded and archived. The project boundary is supervised by monitoring parcels using GPS. Any changes in project boundary are accounted for all calculations of actual net GHG removals by sinks.

Permanent sampling plots will be used for sampling over time to measure and monitor changes in carbon stocks of above and below (indirectly) ground biomass. The location of samples within the plot has been decided randomly to avoid any bias.

Originally at PD, it was proposed that to reach the targeted precision level of about ±10% of the mean at the 90% confidence level in a cost-effective manner, the number of plots needed in each stratum should be determined following the equation 1 and 4 of the Methodological tool "*Calculation of the number of sample plots for measurements within A/R CDM project activities*" version 02.1.0.

$$n = \frac{N * t_{VAL}^2 (\sum_i w_i * s_i)^2}{N * E^2 + t_{VAL}^2 * \sum_i w_i * s_i^2}$$

Where,

n = Number of sample plots required for estimation of biomass stocks within the project boundary; dimensionless

N = Total number of possible sample plots within the project boundary (i.e. the sampling space or the population); dimensionless

t_{VAL}=Two-sided Student's t-value, at infinite degrees of freedom, for the required confidence level; dimensionless

w_i = Relative weight of the area of stratum i (i.e. the area of the stratum i divided by the project area); dimensionless

s_i = Estimated standard deviation of biomass stock in stratum i; t d.m. (or t d.m. ha-1)

E = Acceptable margin of error (i.e. one-half the confidence interval) in estimation of biomass stock within the project boundary; t d.m. (or t d.m. ha-1), i.e. in the units used for i

The number of sample plots calculated was 530, according to the Tool due the first iteration is more than 30, then no further iteration is carried out and the value of *n* obtained in the first iteration is the

final value of *n*, thus *n*= 530. Nevertheless, the commitment of PROTEAK is to be able to count on more accurate data, therefore, the number of plots used in this monitoring period was: 1,506 plots, given that the sampling intensity used is the same as the one used for the valuation of the biological active, so the number of PPMs is higher. The monitoring process take into account internal procedures and internal technical instructions part of the Quality Management System implemented in the company, based specifically on three documents:

- POL-01-01-02-Activo biológico teca;

- PRO-FOR-INV-001-Procedimiento-planeacion-inventarios

- PRO-FOR-INV-002 Procedimiento toma física de inventario[38].

These documents clearly describe the planning of the sampling (intensity, selection and distribution of plots), the generation of information (maps and field data collection sheets), as well as the methodology for the collection of dasometric variables in the field.

However, one of the improvements to be implemented as of the 2022 measurement event is that all plots used in the first measurement for the sites (farms) included in the Project, will be considered as permanent for the following events[39]. This is an adaptive action that promotes improvement in the Monitoring Plan.

Table 10. 2022 Measuring event resume

Total Trees Measured	25,936
Number of plots (Permanent Sampling Plots)	1,506
Total Ha	5,338.94
Total CO_2 of plots	10,817
Cumulative stock tCO_2-e	1,215,246
Net Removals tCO_2-e	57,756

[38] The three documents are submitted as evidence at: ANNEX V. Monitoring file.

[39] ANNEX V. Monitoring\PRO-FOR-INV-001-Procedimiento-planeacion-inventarios.pdf\Section: 4.3.9.

4.3.2 Biomass loss events

Biomass loss events could happen by a diverse of causes, e.g., extreme weather, plantation failure or fire. The most important consideration in every event is to establish with the best accuracy and precision, the amount of biomass loss.

The other consideration is explained in the LULUCF Guidelines: "*Forest cover loss resulting from natural disturbances, such as wildfires, insect epidemics or wind storms, are not considered direct human-induced deforestation, since in most cases these areas will regenerate naturally or with human assistance. Human activities (since 1990) such as cropland management or the construction of roads or settlements, that prevent forest regeneration by changing land use on areas where forest cover was removed by a natural disturbance, are considered direct human-induced deforestation*".

In addition, Verra Standard' Program Definitions must be considered, as per: "*Loss Event: In an AFOLU project, any event that results in a loss of more than five percent of previously verified emission reductions and removals due to losses in carbon stocks in pools included in the project boundary that is not planned for in the project description (e.g., harvesting as set out in management plans and described in the project description is not a loss event). Examples include catastrophic events (see definition of catastrophic reversal) as well as human-induced losses such as those caused by poor management, tillage, over-harvesting or encroachment by outside actors (e.g., illegal logging or fuelwood collection)*".

The premise to be applied is: when a specific area is affected by some cause and growth of trees is interrupted, the area should be identified, measured and reported as a biomass loss if the plantation will not be recovered. The options to quantify the biomass could be:

a) Situation 1, loss event devastates totally the carbons stocks in the affected area and left no evidence of the previous existing biomass: extrapolation of data by sampling a similar still stand plantation should be the option to carry out. Plantation of the same year and specie in the same farm should be the one to be sample. The survey shall have less than 10% of sampling error at 95% confidence interval. Temporary sampling plots of 30 trees shall be use to estimate the biomass. Approved project allometric equations must be applied for estimations.

b) Situation 2, loss event does not devastate totally the carbons stocks in the affected area and left evidence of the existing biomass: if it is possible to quantify the number of trees by stumps, biomass estimation given by sampling a plantation of the same year and specie, shall be extrapolated to the number of trees lost. Temporary sampling plots of 30 trees shall be use in the neighbor plantation

to estimate the biomass. The survey shall have less than 10% of sampling error at 95% confidence interval. Project Proponent' project allometric equations must be applied for estimations.

c) Situation 3, loss event is a planned action: the farm must provide information to Project Proponent' monitoring department and describe the situation and needs. After monitoring department approval, a tree census must be carried if the extension of the area to be affected is less than 30 hectares. The variables needed for biomass quantification using allometric equation, should be recorded like the DBH.

In other case, when the affected area is bigger than 30 ha, sampling in the still stand trees shall be carried out, observing that survey shall have less than 10% of sampling error at 95% confidence interval. Temporary sampling plots of 30 trees should be use in the same plantation to estimate the biomass loss. Project Proponent' project allometric equations must be applied for estimations.

In both cases, boundaries of the affected area must be delimited by painting, to provide certainty and avoid errors.

In accordance with IPCC 2006 Guidelines, Project Proponent' has chosen to use both Survey and Census information to estimate biomass loss:

"***Survey data*** *are derived from sampling and do not include real data for the whole population. Surveys should assess a representative sample (in the context of the survey purpose), so that the results can be expanded to provide an estimate of the full population. Using more general surrogate data and assumptions would then derive the higher level total. Both the representativeness of the sample and the methods used to gross-up need careful review.*

Census data *are based on a complete count of the whole population. A census is usually limited in detail and diversity to only the most important. It is expensive and time consuming and this is a significant limiting factor for specific inventory applications. Often census data are used as a reliable surrogate for extrapolating survey data.*"

d) Situation 4, if none of the above describe situation is applicable for the farm, Project Proponent' monitoring department will establish the procedures following good practices.

4.3.3 Custody of information

All information from the monitoring to be carried out on farms as part of the project should be collected and shielded by Project Proponent; it is the monitoring coordinator's responsibility to

ensure all information is duly recorded and secure. The information should be stored annually in physical form and in digital form (CD and digital memory storage).

This information is very important and valuable because it contains the data needed to make carbon fixation calculations by farm within the project and to estimate carbon credits during the crediting period of the project.

According to VCS Standard, data archiving must be done for at least two more years after the end of the project crediting period.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

In accordance with the validated PD, continuation of pre-project activity (extensive cattle grazing with no pasture improvement) has been identified as the most plausible scenario in the absence of the proposed project activity.

Since continuation of an activity that has been applied without changes for more than 20 years has been selected as the baseline scenario, it is assumed, in accordance with IPCC Good Practice Guidance for Land Use, Land Use Change and Forestry[40] (2003) that the net GHG removals by sinks in the baseline equals zero.

5.2 Project Emissions

According to the methodology AR-ACM0003 version 01.0.0 is stated that if biomass distribution over the project area is not homogeneous, stratification should be carried out to improve the precision of biomass estimation.

In the case of the project activity there are different conditions of the plantations such as the weather conditions (there are variations in the state of Nayarit and Tabasco-Chiapas), the type of seed used (clone seed or normal seed) and the year of plantation. Both variables directly affect the biomass distribution of the project activity, the type of seed and weather conditions are involved in the variable of growth curve.

The actual net GHG removals by sinks shall be calculated as follows:

$$\Delta C_{ACTUAL,t} = \Delta C_{P,t} - GHG_{E,t}$$

Where,

$\Delta C_{ACTUAL,t}$= Actual net GHG removals by sinks, in year t; tCO_{2-e}

[40] www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/GPG_LULUCF_FULL.pdf

$\Delta C_{P,t}$= Change in the carbon stocks in project occurring in the selected carbon pools in year t; tCO_{2-e}

$GHG_{E,t}$ = Increase in non-CO2 GHG emissions within the project boundary as a result of the Implementation of the A/R project activity, in year t, as estimated in the tool "*Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity*"; tCO_{2-e}.

The increase in GHG emissions as a result of the implementation of the proposed A/R CDM project activity within the project boundary is estimated as:

$$GHG_E = \sum_{t=1}^{t} GHG_{Et}$$

Where,

GHG_E = Increase in GHG emissions as a result of the implementation of the proposed A/R CDM project activity within the project boundary; t CO_{2-e}

$GHG_{E,t}$= Increase in non- CO_2 emissions due to burning of biomass of existing woody vegetation as part of site preparation in year t, as estimated in the tool "*Estimation of non CO_2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity*"; tCO_{2-e} t= 1,2,3,….t* years elapsed since the start of the A/R CDM project activity

PROTEAK uses a procedure for land preparation which demonstrates (and it is audited as part of the ISO 9001 certification) that no biomass is burned during site preparation, so there will be no GHG emissions from biomass burning.

$$GHGE=0$$

Thus, change in the carbon stocks in project, occurring in the selected carbon pools in year t shall be calculated as follows:

$$\Delta C_{P,t} = \Delta\, C_{TREE\_PROJ,t} + \Delta C_{SHRUB\_PROJ,t} + \Delta C_{DW\_PROJ,t} + \Delta C_{LI\_PROJ,t} + \Delta SOC_{AL,t}$$

Where,

$\Delta C_{P,t}$: Change in the carbon stocks in project, occurring in the selected carbon pools, in year t; tCO2-e.

$\Delta C_{TREE\_PROJ,t}$: Change in carbon stock in tree biomass in project in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities*"; tCO2-e.

$\Delta C_{SHRUB\_PROJ,t}$: Change in carbon stock in shrub biomass in project in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities*"; tCO2-e.

$\Delta C_{DW\_PROJ,t}$: Change in carbon stock in dead wood in project in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities*"; tCO2-e .

$\Delta C_{LI\_PROJ,t}$: Change in carbon stock in litter in project in year t, as estimated in the tool "*Estimation of carbon stocks due to the implementation of A/R CDM project activities*", as estimated in the same tool; tCO2-e.

$\Delta SOC_{AL,t}$: Change in carbon stock in SOC in project, in year t, in areas of land meeting the applicability conditions of the "*Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities*", as estimated in the same tool; tCO2-e Estimation of GHG emissions within the project boundary.

The baseline net GHG removals by sinks shall be calculated as follows:

$$\Delta C_{BSL,t} = \Delta C_{TREE\_BSL,t} + \Delta C_{SHRUB\_BSL,t} + \Delta C_{DW\_BSL,t} + \Delta C_{LI\_BSL,t}$$

Where:

$\Delta C_{BSL,t}$: Baseline net GHG removals by sinks in year t; t $CO_{2\text{-}e}$

$\Delta C_{TREE\_BSL,t}$: Change in carbon stock in baseline tree biomass within the project boundary in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities*"; t $CO_{2\text{-}e}$

$\Delta C_{SHRUB\_BSL,t:}$ Change in carbon stock in baseline shrub biomass within the project boundary, in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities*"; t $CO_{2\text{-}e}$

$\Delta C_{DW\_BSL,t}$: Change in carbon stock in baseline dead wood biomass within the project boundary, in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities*"; t CO_{2-e}

$\Delta C_{LI\_BSL,t}$: Change in carbon stock in baseline litter biomass within the project boundary, in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities*"; t CO_{2-e}

For the evaluated period, the inclusion of two new substrates is being reported:

1) Farm La Laguna, plantation 2015: this plantation (substratum) is the result of the renewal of areas planted in 2012 that had very poor development due to poor drainage, so it was decided to eliminate the trees that were in that small area, which was also a seed plantation, and replace it with a clonal plantation (used as an adaptive action).

This portion was an eligible area, since the establishment of the 2012 plantation, and it had a previous land use that corresponded to a pasture. Although a total of 26.4 hectares were removed, only 20.17 hectares were replanted (reestablished). Therefore, for carbon sequestration, the 20.17[41] hectares area is used. However, for the estimation of emissions from the removal of existing biomass from the 2012 plantation, the 26.4 hectares that were removed, are used.

Therefore, and since an inventory of trees (census) was not conducted, the average per area in this report is used to estimate the carbon stock. Although it is higher than the stock at the time of biomass removal, it is the most conservative way to report this fact, which occurred in 2015. In this sense, and according to the current ERR spreadsheet, the average existing in the 2012 Laguna plantation corresponds to 161.2738 t CO_2-e/ha.

Therefore, in an intervened area of 26.4 hectares, with an estimated stock of 161.2738[42] tCO_2-e/ha, emissions occurred corresponding to: 26.4 * 161.2738 = 4,257.63[43] tCO_2-e/ha.

[41] This value can be verified in the ERR calculation sheet (PT-FB-MR2022 measurement and calculation.xlsx), sheet Planting areas act. 2025, cell I15.

[42] This value can be verified in the ERR calculation sheet (PT-FB-MR2022 measurement and calculation.xlsx), sheet LA LAGUNA 12, cell U17.

[43] This value can be verified in the ERR calculation sheet (PT-FB-MR2022 measurement and calculation.xlsx), sheet GHG removals, cell B5.

2) Farm San Pablo, plantation 2016: this plantation is the result of the renewal of area planted in 2010 given that had very poor development because they had been flooded for several years continuously, so it was decided to replace the small part that was planted with seeds and replace it with clonal plantations (used as an adaptive action); however, this area, was already an eligible area, since, at its establishment (2010), said area corresponded to a pasture.

A total of 32.64 hectares were removed; therefore, for the new carbon sequestration at this substratum, the 32.64[44] hectares area is used. Likewise, for the estimation of emissions from the removal of existing biomass from the 2010 plantation, the 32.64 hectares that were removed are used.

Therefore, and since an inventory of trees (census) was not conducted, the average per area in this report is used to estimate the carbon stock. Although it is higher than the stock at the time of biomass removal, it is the most conservative way to report this fact, which occurred in 2016. In this sense, and according to the current ERR spreadsheet, the average existing in the 2010 San Pablo plantation corresponds to 180.8031[45] t CO_2-e/ha.

Therefore, in an intervened area of 32.64 hectares, with an estimated stock of 180.8031 tCO2-e/ha, emissions occurred corresponding to: 32.64 * 180.8031 = 5,901.41[46] tCO_2-e/ha.

The San Pablo 2016 and Laguna 2015 plantations were not included in previous monitoring periods, because at the time of verifications, these areas were not old enough to be inventoried, accordingly with the Proteak inventory procedure.

Based on the above, the total emissions of the project that are discounted in the current report correspond to 4,257.63 + 5,901.41 = **10,159.04** tCO2-e/ha.

[44] This value can be verified in the ERR calculation sheet (PT-FB-MR2022 measurement and calculation.xlsx), sheet Planting areas act. 2025, cell J8.

[45] This value can be verified in the ERR calculation sheet (PT-FB-MR2022 measurement and calculation.xlsx), sheet SAN PABLO 10, cell U17.

[46] This value can be verified in the ERR calculation sheet (PT-FB-MR2022 measurement and calculation.xlsx), sheet GHG removals, cell B5.

5.2.1 Estimation of tree biomass using the BEF method

In this method, volume tables or volume equations are used to convert tree dimensions to stem volume of trees. Stem volume of trees is converted to above-ground tree biomass using density and biomass expansion factors, and the above-ground tree biomass is expanded to total tree biomass using root-shoot rations. This is estimated as:

$$B_{TREE,j,p,I,t} = V_{TREE} \times D_J \times BEF_{2,j} \times (1+Rj)$$

Where,

$B_{TREE,j,p,I,t}$: Biomass of trees of species j in sample plot p of stratum I at a point of time in year t, t dry matter (d.m.)

V_{TREE} = Stem volume of trees species j in sample plot p of stratum i at a point of time in year t, estimated by using the tree dimension(s) as entry data into a volume table or volume equation; m3

D_J: Density (overbark) of tree species j; t.d.m. m-

$BEF_{2,j}$: Biomass expansion factor for conversion of stem biomass to above-ground tree biomass, for tree species j; dimensionless

R_j: Root-shoot ratio for tree species j; dimensionless

J: 1, 2, 3, tree species in plot p

P: 1, 2, 3, sample plots in stratum i

I: 1, 2, 3, tree biomass estimation strata within the project boundary

The calculation of the teak biomass was calculated by the following equations of Petmark and Sahunalu published in the research article of the University in Bangkok. The equations are the following: activity"; tCO_{2-e}.

For Stem biomass (WS): *Log WS = 0.9797 log (D2H) – 1.6902* r^2 =0.9930

For Branch biomass (WB): *Log WB = 1.0605 log (D2H) – 2.6326* r^2 =0.9567

For Leaf biomass (WL): *Log WL = 0.7088 log (D2H) – 1.7383* r^2 =0.8523

The sum of each formula will correspond to the mass per three.

Above and below ground biomass have been estimated according to the tool "*Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activity*". A summary of the main factors used, and each source of data are presented in the table below.

Estimations are archived as part of the project documentation and will be available for the VVB.

Table 11. Values used for estimating tree biomass

Parameter	Symbol	Value	Source
Basic density for teak tree (tonnes dry matter/m^3)	$D_{wood,j}$	0.5	Obtained from the IPCC. Table 3A.1.9 (*Tectona grandis*).
Density of teak calculated with the formula of the tool (tonnes dry matter/m^3)	D_j	0.485	The value was estimated by the following formula: Dj = Dwood, j * (1 - %Barkvolume) + Dbark, j * %Barkvolume
Biomass expansion factor (dimensionless)	$BEF_{2,j}$	1.3	Values from Table 3A.1.10 of IPCC GPG LULUCF 2003. As the weather of the activity is tropical.
Carbon Fraction (dimensionless)		0.5	According to the tools, this is the standard value [47]).
Root-to-shoot ratio (dimensionless)		0.31	The value of Rj was calculated as Rj = exp[-1.085+0.9256*ln(A)]/A, where A is above-ground biomass (t d.m. ha-1); this equation is obtained from the IPCC GPG-LULUCF 2003, and was used by Proteak, as the best available information, to obtain a specific Rj for Proteak plantations, based on its own information coming from its plantations [Source: Table 4.A.4 of IPCC GPG-LULUCF 2003].

Although the BEF method for estimating tree biomass contemplates the use of a Biomass expansion factor (BEF2,j), this value was not applied since the sum of the results of the three allometric equations used gives the total biomass of the tree as a result. (aerial), and not the biomass of the commercial forest part.

[47] Intergovernmental Panel on Climate Change [IPCC]. (2003). Good Practice Guidance for Land Use, Land-Use Change and Forestry. National Greenhouse Gas Inventories Programme. Retrieved from http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/GPG_LULUCF_ FULL.pdf

5.2.2 Soil organic carbon

Estimations of soil organic carbon (SOC) stocks were done in accordance with the "*Tool for the change in soil organic carbon stocks due to the implementation of A/R CDM project activity*". As suggested by the tool, it is assumed that the implementation of the project activity increases the SOC content of the lands from the pre-project level to the level that is equal to the steady-state SOC content under native vegetation. The increase in SOC content in the project scenario takes place at a constant rate over a period of 20 years from the year of planting.

The project meets the applicability conditions of this tool due to:

a) the areas of land where the tool is applied do not fall into wetland category and are not subject to any of the land management practices and application of inputs listed in Tables 1 and 2 of the tool; the three applicability conditions can be demonstrated with the photos of each plantation, and the Environmental Impact Certificate, which demonstrate that the lands do not fall in wetland category and that the plantation had no inputs, in the same way the VVB could corroborate in the visit that the plantations follow the applicability conditions of the tool. Additionally, in this section details the type of land or category that the project plantations fall into, with this it is also demonstrated that the project plantations don't fall in the wetland category. The main soils related to the project plantations are: Gleysol, Rendzine, Regosols, Cambisols[48]

In the case of Regosols and Cambisols the tool classifies these soils as High Activity Clay (HAC), in the case of the Gleysol and Rendzine they're considered as land where the clay percentage is 24 and 29%, respectively[49], those lands can be considered as Low Activity Clay (LAC). With this it is demonstrated that the project land does not fall in the wetland category.

Since the land use prior to project start is grassland, only Table 2 of the tool, applies. For the tropical wet and tropical moist climate region corresponding to the project activity, none of the three combinations included in Table 2 of the tool, are applicable.

Litter remains on site and is not removed, and soil disturbance is in accordance with appropriate conservation practices, limited to site preparation and not repeated within 20 years.

48 INEGI. Instituto Nacional de Estadistica y Geografía. Principales Tipos de Suelo. Available at: http://mapserver.inegi.gob.mx/geografia/espanol/datosgeogra/fisigeo/suelos.cfm

49 INEGI. Instituto Nacional de Estadística y Geografía. Perfiles de Suelo. Page 18. Available at: http://mapserver.inegi.gob.mx/geografia/espanol/prodyserv/prods-geograficos/perfiles/perf.pdf

Table 12. Data used for estimating soil organic carbon

Parameter	Symbol	Value	Source
Reference SOC (tC/ha)	$SOC_{REF,i}$	44	Table 3 HAC Soil, Tropical, wet climate which is the most predominant.
Land use factor	$f_{LU,i}$	1	All permanent grassland is assigned a land-use factor of 1
Management	f_{MG}	0.7	As was demonstrated land is considered a degraded land
Input		1	All grassland without input fertilizers is assigned the input value of 1.
Root-to-shoot ratio (dimensionless)		0.31	The value of Rj is calculated as Rj = exp[-1.085+0.9256*ln(A)]/A, where A is above-ground biomass (t d.m. ha-1); this equation is obtained from the IPCC GPG-LULUCF 2003, and was used by Proteak, as the best available information, to obtain a specific Rj for Proteak plantations, based on its own information coming from its plantations [Source: Table 4.A.4 of IPCC GPG-LULUCF 2003].

SOC at the beginning of the project ($SOC_{INITIAL,i}$) is estimated by multiplying the factors in Table by the reference SOC. As per the tool, a loss in SOC ($SOC_{LOSS,i}$) is applied in the case that soil disturbance occurs on more than 10 percent of the land area, for the case of the project activity this is not the case, therefore $SOC_{LOSS,i}$ is zero.

The following methodological formula is used for calculating the annual change in SOC stock

$$dSOC_{t,i} = \frac{SOC_{REF,i} - \left(SOC_{REF,i} - SOC_{Loss,i}\right)}{20\ years}$$

Where:

$dSOC_{t,I}$ = The rate of change in SOC stock in stratum i of the area of land, in year t; tC/ha/year

$SOC_{REF,i}$ = Reference SOC stock corresponding to the reference condition in native lands by climate region and soil types applicable to stratum i of the area of land; tC/ha

$SOC_{INICIAL,I}$ = SOC stock at the beginning of the A/R project activity in stratum i of the areas of land

$SOC_{LOSS,i}$ = Loss of SOC caused by soil disturbance attributable the A/R project activity, in stratum I of the areas of land ; tC/ha

The result of dSOCt,i is 0.66 t C/ha/year, therefore this is the value of the increase of the soil organic carbon.

5.2.3 Long term average -LTA-

The long-term average calculation was updated. In the file " Proteak-LTA updated 2022[50]", there are the calculations of how many credits have been issued to date; the calculations are the same that was validated, with two updates:

- the real planting area; and

- the real GHG removals verified up to 2020 monitoring event.

5.3 Leakage

Leakage shall be estimated as follows:

$$LKt = LK_{AGRIC,t}$$

Where:

LK_t = GHG emissions due to leakage, in year t; t CO_{2-e}

$LK_{AGRIC,t}$ = Leakage due to the displacement of agricultural activities in year t, estimated in the tool "*Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R project activity*"; t CO_{2-e}.

The calculation of the leakage emissions is the following equation.

$$LK_{Agric,t} = \frac{44}{12} * \frac{f}{T_{cred}} * \Delta Cd_t$$

Where:

$LK_{Agric,t}$ = Leakage due to displacement of agricultural activities in year t (tCO2-e)

f = Fraction of land covered by forest (according to the national definition of forest) in the region containing the project activity (dimensionless)

T_{cred} = Number of years in the first crediting period (dimensionless)

[50] ANNEX VI. GHG Estimations\Proteak-LTA.xlsx.

ΔCd_t = Sum of annual changes in carbon stock in all selected carbon pools since the start of the project activity to the year of verification attributable to the area subject to pre project agricultural activities that are displaced during year t since the start of the project activity (t C).

t = 1,2,3, t year elapsed since the start of the project activity.

44/12 = Ratio of molecular weight of CO2 to carbon (tCO_{2-e} tC-1)

All the plantations were grassland as previous land use; therefore, these emissions are not considered in the project activity, this assumption is supported with evidence presented at ANNEX V. Monitoring\folder Leakage[51].

Additionally, according to the definition of the CDM tool "*Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in an F/R CDM project activity*[52]", Agricultural activities: refers to farming and grazing activities that take place on the land.

This tool, clearly states in Note 1, that "*displacement of an agricultural activity by itself does not result in leakage emission. Leakage emission occurs when the displacement leads to an increase in GHG emissions relative to the GHG emissions attributable to the activity as it exists within the project boundary*"; however, the abandoned pastures that were the baseline for the project sites do not leaded to increased emissions outside of the project areas. In Note 2, the tool states that the "*Increase in GHG emissions occurring outside the project boundary attributable to secondary effects of the F/R CDM project activity (e.g. changes in demand, supply or price of goods) is considered insignificant for the purposes of this tool and is therefore accounted for as zero*." The PP has duly demonstrated in the validated PD that no changes in demand, supply or price of goods has occurred given the Project implementation.

According to the AFOLU requirements state that the Methodologies shall establish procedures to quantify all significant sources of leakage. Leakage is defined as any increase in GHG emissions that occur outside the project boundary (but within the same country) and is measurable and attributable to the project activities. The three types of leakage are:

[51] ANNEX V. Monitoring\Leakage\Documents: Vegetation Map 1997 Chiapas.pdf, Vegetation Map 1997 Nayarit.pdf and Vegetation Map 1997 Tabasco.pdf.

[52] ANNEX III. Scientific literature references\Document: 4. AR-AM-tool-15-Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities v2.0.pdf.

1) Market leakage occurs when projects significantly reduce the production of a commodity causing a change in the supply and market demand equilibrium that results in a shift of production elsewhere to make up for the lost supply.

The land of the project activity did not have any forestry/agricultural use before the project activity; therefore, there was not any production of a commodity or something that can be involved with the leakage condition.

2) Activity-shifting leakage can result from, inter alia, the shifting of grazing animals, shifting of households or communities, shifting of aqua cultural or agricultural activities, or shifting of fuelwood collection (from non-tree sources). Leakage emissions may also result from transportation and machinery use.

The project activity is not related with the shifting of grazing animals or households or communities, therefore, this condition is neglected.

3) Ecological leakage occurs in WRC projects where a project activity causes changes in GHG Emissions or fluxes of GHG emissions from ecosystems that are hydrologically connected to the project area.

The project activity is not developed as a Wetland Restoration and Conservation project; therefore, thus, this leakage is not included.

According to the deviation requested in this report (section 3.2.2.4), and the evidence presented[53], it can be determined that all of the properties included in the project are classified, according to the Geographic Database of the National Environmental and Natural Resources Information System of Mexico (SNIARN), as grassland/savanna. This information/classification, which results in a land use and vegetation map from 1997, corresponds to at least 10 years before the start of the Project activity, which was 2009.

Each property included in the Project was over-positioned in this available information, being this hereinafter, the proof that the previous use did not generate leakage.

[53] ANNEX V. Monitoring\Leakage\Documents: Vegetation Map 1997 Chiapas.pdf, Vegetation Map 1997 Nayarit.pdf and Vegetation Map 1997 Tabasco.pdf.

5.4 Net GHG Emission Reductions and Removals

The net anthropogenic GHG removals by sinks shall be calculated as follows:

$$\Delta C_{AR\text{-}CDM,t} = \Delta C_{ACTUAL,t} - \Delta CB_{SL,t} - LK,_t$$

Where:

$\Delta C_{AR\text{-}CDM,t}$: Net anthropogenic GHG removals by sinks, in year t; $tCO_{2\text{-}e}$

$\Delta C_{ACTUAL,t}$: Actual net GHG removals by sinks, in year t; $tCO_{2\text{-}e}$

$\Delta C_{BSL,t}$: Baseline net GHG removals by sinks, in year t; $tCO_{2\text{-}e}$

$LK,_t$: GHG emissions due to leakage, in year t; $tCO_{2\text{-}e}$

The actual net GHG removals by sinks shall be calculated as follows:

$$\Delta C_{ACTUAL,t} = \Delta C_{P,t} - GHG_{E,t}$$

Where,

$\Delta C_{P,t}$: Change in the carbon stocks in project, occurring in the selected carbon pools, in year t, t $CO_{2\text{-}e}$ $GHG_{E,t}$

$GHG_{E,t}$: Increase in non-CO_2 GHG emissions within the project boundary as a result of the implementation of the project activity in year t, as estimated in the tool "*Estimation of non-CO_2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity*", t $CO_{2\text{-}e}$

The change in the carbon stocks in project, occurring in the selected carbon pools in year t shall be calculated as follows:

$$\Delta C_{P,t} = \Delta C_{TREE\_PROJ,t} + \Delta C_{SHRUB\_PROJ,t} + \Delta C_{DW\_PROJ,t} + \Delta C_{LI,PROJ,t} + \Delta C_{SOCAL,t}$$

Where,

$\Delta C_{P,t}$: Change in the carbon stocks in the project, occurring in the selected carbon pools, in year t; $tCO_{2\text{-}e}$.

$\Delta C_{TREE\_PROJ,t}$: Change in carbon stock in tree biomass in project in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities*"; $tCO_{2\text{-}e}$

$\Delta C_{SHRUB\_PROJ,t}$: Change in carbon stock in shrub biomass in project in year t, as estimated in the tool "*Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities*"; tCO_{2-e}

$\Delta C_{DW\_PROJ,t}$: Change in carbon stock in dead wood biomass in project in year t, as estimated in the tool "*Estimation of carbon stocks and change in dead wood and litter in A/R CDM project activities*"; tCO_{2-e}

$\Delta C_{LI,PROJ,t}$: Change in carbon stock in litter in project in year t, as estimated in the tool "*Estimation of carbon stocks and change in dead wood and litter in A/R CDM project activities*"; tCO_{2-e}

$\Delta C_{SOCAL,t}$: Change in carbon stock in SOC in project, in year t, in areas of land meeting the applicability conditions of the "*Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities*", as estimated in the same tool; tCO_{2-e}.

Correction for large maximum allowable relative error. The maximum allowable relative error of the mean tree biomass is calculated using the following equation:

$$RE_{max} = ,\mu b_{TREE,t}$$

Where:

RE_{max} = Maximum relative error, %

$Ub_{TREE,}t$ = Uncertainty of the mean tree carbon per hectare within the project boundary at time t; %.

T = 1, 2, 3 … years counted from the start of the A/R CDM project activity

The PP demonstrates that the relative error is 0.03%, therefore, since this value is less than 10%, the deduction rate is 0%.

The possible natural and human-induced risks that may impact the Fresh Breeze Project benefits are outlined in detail in Annex VIII. Risk Analysis. Additional mitigation strategies will be developed if new risks emerge during project implementation. These risks will be considered in conjunction with the non-permanence risk assessment carried out in accordance with the most recent AFOLU Non-Permanence Risk Tool. The result of the non-permanence risk was 14%; no changes were reported since the last risk assessment (Monitoring Report 2022). The non-permanence risk report is presented as evidence as a separate document[54].

[54] ANNEX VIII. Risk analysis\Fresh Breeze-VCS Non-Permanence Risk Report 2022.pdf.

Table 13. Net change in carbon stocks during the monitoring period reported

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
01-January-2021 - 31-December-2021	5587	40,883	0	35,296	3,530	31,766
01-January-2022 - 31-October-2022	4572	33,450	0	28,878	2,888	25,990
Total	**10,159**	**74,333**	**0**	**64,174**	**6,417**	**57,756**

Table 14. GHG emissions reductions and removals *ex-ante* and *ex-post*.

Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
1,215,246	**74,333**	**-94%**	Although there is evidently a large difference between the *ex-ante* and *ex-post* values, the actual generation of GHG reductions does not lead to an overestimation; the large difference is mainly due to: - The initial area planted by the time of validation = 4,269.82 ha; - The actual area planted by the time of present verification = 5,338.94 ha (only a 25.12% growth in relation to the initial area, and only 42.6% of the area that in theory should have been planted at the time of this monitoring report); - The expected established area growth by the time of the current reporting period (section 1.8 of the DD) = 8,400 more hectares of planting. - The crediting period was modified from 54 to 50 years.