



**Verified Carbon  
Standard**

# FRESH BREEZE AFFORESTATION PROJECT. MONITORING REPORT 2



**PROTEAK**  
WE MAKE FORESTRY MATTER

Document Prepared by ALLCOT Mediterránea

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<b>Project Title</b>	<i>FRESH BREEZE AFFORESTATION PROJECT</i>
<b>Version</b>	6
<b>Report ID</b>	2
<b>Date of Issue</b>	12/28/2020
<b>Project ID</b>	1141
<b>Monitoring Period</b>	23-December-2014 to 31-December-2019
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# 1 PROJECT DETAILS

## 1.1 Summary Description of the Implementation Status of the Project

The Fresh Breeze afforestation project covers 5,344.02 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 will be established. The project activity is established in the states of Tabasco, Nayarit and Chiapas, Mexico. According to Proteak information for this verification are confirmed a total of 5,344.02 hectares of land.

In the case of Fresh Breeze Afforestation Project the date of July, 2009 correspond to the date when started the plantations of the Plantation Tintal, this event correspond to the first activity that lead the GHG removal of the project, since this day the project start the operation and every year new plantation were added as is described below.

The land selected for plantation of *Tectona grandis*, commonly called "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

For this monitoring period the GHG emission removals generated by the project activity are equal to 644,011 tons of CO<sub>2</sub>-eq (after risk tool).

## 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 Proteak's expansion plan.

### 1.3 Project Proponent

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### 1.4 Other Entities Involved in the Project

Organization name	ALLCOT AG
Role in the Project	Consulting in charge of Monitoring Report (MR) preparation and the delivery to the Validation/Verification body according to VCS guidelines and procedures
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## 1.5 Project Start Date

July 1<sup>st</sup>, 2009, corresponding to the date when the plantations of Tintal plot began. This event corresponds to the first activity that led to the GHG removal of the project.

## 1.6 Project Crediting Period

For the current grouped project, the crediting period will be 50 years from July 1<sup>st</sup>, 2009 to June 30<sup>th</sup>, 2058. In accordance with VCS Standard version 4 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

In this section is stated each plantation that is part of the project activity, for each plantation it is stated the year that the plantation started and the plantation hectare. The next tables show the information of the following properties:

Area	Plantation	Year	Area (ha)
<b>Palenque</b>	Asterisco	2012	72.28
<b>Balancan</b>	Brasiles	2012	49.98
<b>Balancan</b>	Brasiles	2011	239.56
<b>Balancan</b>	Caoba	2010	232.59
<b>Nayarit</b>	Capitan	2009	75.90
<b>Nayarit</b>	Cascada	2009	18.77
<b>Balancan</b>	Cedros	2011	76.66
<b>Tenosique</b>	Cuvadonga	2012	109.19
<b>Tenosique</b>	Cuvadonga	2011	40.68
<b>Huimanguillo</b>	Don Justi	2011	60.25
<b>Huimanguillo</b>	El Abuelo	2013	343.80
<b>Huimanguillo</b>	El Abuelo	2012	84.06
<b>Huimanguillo</b>	El Capri	2013	11.49
<b>Huimanguillo</b>	El Diamante	2012	26.10
<b>Huimanguillo</b>	El Diamante	2011	33.93
<b>Tapachula</b>	El Establo	2013	34.23
<b>Tapachula</b>	El Milagro	2013	9.00
<b>Tapachula</b>	El Milagro	2011	88.08

<b>Balancan</b>	El Pocito	2009	370.14
<b>Balancan</b>	El Pocito	2011	104.23
<b>Balancan</b>	El Pocito	2010	41.44
<b>Palenque</b>	El Rincon	2010	74.17
<b>Palenque</b>	El Rincon	2011	6.69
<b>Huimanguillo</b>	El Zombi	2013	141.56
<b>Nayarit</b>	Empeño 8	2009	13.03
<b>Palenque</b>	La Estrella	2011	86.29
<b>Palenque</b>	La Estrella	2012	43.90
<b>Palenque</b>	La Estrella	2010	37.83
<b>Huimanguillo</b>	La Laguna	2012	338.26
<b>Balancan</b>	Las Amapas	2012	78.45
<b>Balancan</b>	Las Amapas	2011	180.62
<b>Tapachula</b>	Nueva Pezuña	2011	18.82
<b>Tenosique</b>	Piedra Santa	2012	275.84
<b>Tenosique</b>	Piedra Santa	2011	72.99
<b>Tenosique</b>	Porvenir	2012	60.79
<b>Tapachula</b>	San Agustin - Primor	2011	53.82
<b>Tapachula</b>	San Agustin - Primor	2013	7.02
<b>Tapachula</b>	San Juan	2011	21.97
<b>Tapachula</b>	San Juan	2010	75.16
<b>Balancan</b>	San pablo	2010	111.27
<b>Balancan</b>	San pablo	2011	8.09
<b>Balancan</b>	Santa Rosa	2010	67.66
<b>Tacotalpa</b>	Tacotalpa	2015	406.00
<b>Tacotalpa</b>	Tacotalpa	2014	525.00
<b>Tacotalpa</b>	Tacotalpa	2013	173.00
<b>Balancan</b>	Tintal	2010	262.14
<b>Balancan</b>	Tintal	2009	70.23
<b>Nayarit</b>	Victoria 7	2009	11.06
<b>TOTAL</b>			5344.02

Following are detailed two examples of the plantations of Proteak.



Figure 1. Status of plantation

## 1.8 Title and Reference of Methodology

AR-ACM0003. Afforestation and reforestation of lands except wetlands. Version 1.0.0 is applied to this project activity. The following methodological tools are used:

- "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 3.2
- “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

Not applicable, the project activity is not registered in other GHG programs or trading systems.

## 1.10 Other Forms of Credit

Not applicable, the project has not sought nor received any other GHG environmental credit.

## 1.11 Sustainable Development

Proteak has signed participation in the Global Compact, in support of the principles regarding human rights, labor rights, environmental protection and the fight against corruption. This commitment represents consistency with the principles and values, as well as the internal policy of Proteak.

:

 <p>1 NO POVERTY</p>	<p>The project provides new opportunities for formal employment in the region, contributing to an improved quality of life for the population. Currently, PROTEAK provides 424 permanent jobs, thus promoting regional economic growth.</p> <p>On the other hand, PROTEAK has a program to support the community's needs. In 2019 467 people have been supported with this program in three different areas: school, church and police through different types of donations.</p>
 <p>4 QUALITY EDUCATION</p>	<p>Proteak seeks to implement initiatives that improve employment opportunities for youth in the areas in which they operate. This effort includes the generation of skills and abilities 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. More than 179 people visited the project site with this objective, and more than 9 training official institutions.</p>
 <p>5 GENDER EQUALITY</p>	<p>Proteak has promoted gender equality through the empowerment of the women of the communities through the creation of job opportunities for them.</p>
 <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	<p>Proteak promotes the sustainable development of its value chain. Proof of this is the monitoring of FSC requirements in the implementation of forestry activities. In addition to this.</p>
 <p>13 CLIMATE ACTION</p>	<p>The project is concerned with the sustainable development of its activities and its contribution to the mitigation of climate change. Only during this monitoring period, the project activity has achieved the removal of 318,354 tCO<sub>2</sub>.</p>



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 and an Environmental, Social and Occupational Safety and Hygiene Policy, where the introduction of organisms is prohibited genetically modified in silvicultural operations. Simplified Management Plans are prepared for each plantation according to the corresponding legislation and in follow-up to the FSC® Principles and Criteria. The company evaluates the environmental impact of its products throughout the different stages of transformation. Forestry activities are governed in accordance with national and international regulations, always seeking to exceed established standards. As a rule, certifications are sought that endorse the sustainability of forest operations and the transformation of raw materials into final products, according to the standards of the National Forestry Commission (CONAFOR), the FSC® and the Environmental and Social Performance Standards. from IFC.

As part of the commitments made with the International Finance Corporation (IFC) and the Global Compact, Proteak Uno, S.A.B. de C.V. developed an Environmental, Social and Occupational Health and Safety Policy, committing itself to follow good corporate practices, which comply with all applicable legislation at national and international level. This policy is public and can be found at <http://proteak.com/index.php/es/sustentabilidad/monitoreo-ambiental>

## 2 SAFEGUARDS

### 2.1 No Net Harm

Stakeholder consultation has been a priority of the project from day one, believing that a participatory approach is the only way to success. The project is not only about teak trees, but firstly about people.

#### **Socio Economic impact**

Project owners elaborated a socio-economic evaluation, in which they describe the methodology and the evaluation followed to measure the social impact generated by the project activities and the plantations. This social assessment was prepared in October 2019, with the information collected in the surveys conducted in October 2019. The Evaluation is based on the definition of several indicators to meet the requirements of Principle 4: "Community relations and workers' rights" of the Forest Stewardship Council (FSC) Forest Management Certification standard.

In 2012, the company underwent the FSC forest certification process in order to support its vision and policies in compliance with the environmental, social and silvicultural management of the project.

PROTEAK UNO S.A.B. DE C.V. is part of the community in which it operates and generates jobs in the ejidos and communities where they are present. Throughout the operations the company has sought to incorporate workers in the region either as direct or indirect workers. The forestry operations began by incorporating leaders in the plantation areas to manage planting and maintenance activities. In this way empirical professionals were taught through training and development of activities, which in turn generated employment alternatives in the region.

PROTEAK UNO S.A.B. DE C.V. has also sought to engage with the community supporting infrastructure works such as roads, bridges, schools, among others. It is for this reason that PROTEAK UNO S.A.B. DE C.V. seeks to maintain a positive impact and mitigate any negative impacts that may result from its operation. The Social Impact Evaluation of PROTEAK UNO S.A.B. DE C.V. aims to:

- 1) Define reagents 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, roads and highways, health services, pollutant generation and water courses and sources.
- 2) To guide the project staff in the planning and elaboration of the Annual Operational Plan (POA), based on the prevention and mitigation of negative impacts that may be caused by the management and use of forest plantations.
- 3) To comply with Mexican standards.
- 4) Maintain the FSC forest management certification.

The Direction of Human Development and Environment is responsible for the field implementation of the Monitoring Plan. This responsibility includes:

- coordinating field data collection and consultations with stakeholders,
- analyze/evaluate the data and ensure its accuracy,
- implement the corrective actions resulting from the monitoring,
- To elaborate/implement the Annual Operational Plan (POA) of the UMF in the field,
- coordinate with the person in charge of FSC certification management.

The design, implementation, and monitoring of the Social Impact Assessment (Principle 4) is the responsibility of the person in charge of FSC certification management at the level of PROTEAK ONE, S.A.B. DE C.V. This responsibility includes:

- reagent planning and evaluation,
- follow up the consultation process with interested individuals and institutions (stakeholders),
- identify non-conformities and corrective actions and ensure their compliance,
- Develop the Social Impact Assessment (Criterion 4.4.1)
- update/publish the report annually

Methodology (form and frequency of data collection)

For the evaluation of the social impact in the communities, consultations with the inhabitants, representatives of organized groups and/or representatives of public institutions will be considered. The consultation will gather general information about the respondent, such as sex, age, community, and municipality where he/she lives, as well as the economic activity he/she carries out. Subsequently, the company's components will be evaluated, including employment generation, roads and highways, health services, generation of pollutants and water sources.

Frequency of data collection

The measurements of the socio-economic indicators will have an "ANNUAL" frequency. It should be taken into account that some data can be taken at different times of the year, this by virtue of the nature and implementation schedule of the different forestry activities (planting, pruning, thinning, harvesting, transportation, others).

- In accordance with FSC policies, all information related to the monitoring system will be saved at the project headquarters for at least five years.

Evaluation

Every forest management project cause "positive or negative" changes in the environmental, social, and forestry conditions involved. The objective of the "evaluation" is to identify the negative impacts that the forestry operation generates on the interest groups of the surrounding communities. In most cases, the negative impacts will be reflected as Corrective Actions or recommendations to minimize or eliminate their occurrence.

## Corrective Actions

Generally, Corrective Actions are incorporated as activities to be executed in the Annual Operating Plan (AOP) 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.

## Review of the evaluation system

The review can occur 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.

PROTEAK UNO S.A.B. DE C.V. has initiated a periodic monitoring of the stakeholders using surveys and indicators that are periodically measured within the present document and that complement the information in the Monitoring Plan. The objective of the surveys is to consult a sample of individuals of interest, both women and men, to know what the effect of the company has been on the topics.

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, age and occupation), and determines the geographic location and the farm closest to your home. In the third part of the survey, a series of reagents have been developed to determine the positive/negative impact of PROTEAK UNO, S.A.B. DE C.V. With these, the person is asked to indicate his or her level of satisfaction according to specific activities of the company.

The results of Proteaks 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 *Evaluación Impacto Social 2019*, the community supports completely the implementation of the project. Additionally, the members that were interviewed agreed that Proteak generates employment possibilities in the region and has improved the accessibility to health services for employers. Around 85% of the members agreed that Proteak has improved the transportation infrastructure in the area, with 12% clarifying that they do not know if the company has really improved such infrastructure. This same distribution of percentages applies to pollutant agent management and water management.

In general, the social impact reports from 2015 to 2018 show that:

- 95-100% of the population thinks that Proteak generates employment opportunities.
- 95-100% agreed that Proteak has improved the accessibility to health services for employers.
- 80-85% considered that Proteak has improved the transportation infrastructure in the area.
- 85-100% considered that Proteak has a correct pollutant agent management.
- 85-100% agreed that Proteak has a correct water management.

Additionally, Proteak Uno, S.A.B. de C.V. enforces their activities and their socioeconomic monitoring by supporting the Ten Principles of the United Nations Global Compact in the field of Human Rights, Labor Rights, Environmental Protection, and the Fight against Corruption. These concepts have been integrated into their annual strategy and punctual monitoring is carried out to obtain better results.

*Annex 1 shows the set of annual social impact evaluations that the company develops to gather information about the community's thoughts and relation to the project.*

### **Environmental Impact**

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.

The report states that the various activities and processes are identified internally, and a map of correlations is applied to evaluate their linkage and interactions within the company.

### **Identification of the activities of each process**

In each process the normal routine activities are sequentially identified. Special attention should be given to those activities that do not appear sporadically and that must necessarily be annexed for the fulfillment of a part of the process.

## **Identification of the risks, aspects, and environmental impacts of each activity**

The identification should ideally be done by the work teams involved in each activity (supervisor and workers) accompanied by the Social and Environmental Responsibility.

In the identification of the risks, aspects, and environmental impacts it is necessary to consider the analysis of the following:

- Generation of industrial waste that can be assimilated to domestic waste.
- Equipment oxidation and metal corrosion.
- Oil spillage due to improper handling of drums and transformers.
- Generation of hazardous waste (batteries, fluorescent tubes, toners, remains of paint, volatile chemicals, disused electronic equipment).
- Potential spillage of hazardous substances.
- Generation of disused tires.
- Emission of combustion gases from the use of electrical equipment.
- Spillage of lubricants, fluids, and fuel / oil.
- Emission of particulate matter (resuspended) by vehicle traffic on unpaved roads (fugitive springs).
- Noise from heavy machinery.
- Air pollution with carbon monoxide and metallic fumes.
- Soil contamination with ashes.
- Generation of contaminated solid residues (hoses, filters, material of cleaning of equipment and insulators).
- Tools and equipment needed to perform the activity.
- Materials, inputs, and raw materials needed for the activity.
- Results of inspections of the workplace and its surroundings (surroundings).
- Incident/accident reports.
- Occupational health monitoring.
- Accident statistics for the last four years.
- List of medical care and special medical examinations.

- Existence of workers especially sensitive to some risk or aspect environmental significance due to their personal characteristics or biological state.
- Existence of workers who are particularly sensitive to some risk or aspect significant for their personal characteristics or state of health known.
- Existence of workers who are particularly sensitive to some risk or aspect significant environmental impact due to its emotional characteristics and/or limitations.
- Cultural differences present in the workplace.
- Interaction with local fauna during project implementation.
- Applicable legal requirements.

In addition, from the point of view of the type of incidents that might occur, or the form of contact or exchange of energy that might occur, the following must be considered:

- Fall to the same / different level
- Contact with hot objects
- Contact with fire
- Contact with electricity
- Contact with sharp objects
- Contact with chemicals
- Hitting with or by an object or tool
- Hitting against objects or equipment
- Crashing against moving elements
- Collision with fixed objects or structures
- Crash by another vehicle
- Trapped by moving object
- Trapped between moving or fixed objects and movement
- Dust exposure
- Exposure to gases and/or vapors
- Exposure to dew and/or mist

- Exposure to ionizing radiation
- Exposure to infrared radiation
- Exposure to ultraviolet radiation
- Exposure to biological agents (bacteria, fungi, etc.)
- Exposure to cold or heat
- Exposure to noise
- Vibration exposure
- Overexertion by manual handling of materials
- Overexertion due to sudden movement
- Fire
- Explosion
- Caused by third parties
- Caused by insects or animals
- Running over by a vehicle
- Food Poisoning
- Spills of hazardous substances and/or waste
- Emissions
- Improper waste disposal

### **Criteria for the identification and evaluation of significant environmental aspects**

Significant environmental aspects are those that can generate environmental impacts with high probability and high severity. The corresponding magnitude is defined from "Low" to "Extreme" according to table No. 4. The significant environmental aspects will be evaluated according to their associated environmental impacts evaluated following the section Priority of the environmental risks and impacts.

### **Evaluation of environmental risks and impacts**

For each identified topic evaluate its risks and environmental impacts. This evaluation must be done by the work teams involved in each activity (Supervisor

and workers) accompanied by the Coordinator of Social and Environmental Responsibility.

### **Calculating the magnitude of environmental risks and impacts (MERI)**

The magnitude of environmental risks and impacts (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. The MERI is a value that is calculated based on the assignment, first, of numerical values to establish a measurement parameter for the variables Probability and Severity.

Then, calculates it using the following formula:

$$\text{MERI} = P \times S$$

The evaluator should select and assign the value that, according to his/her experience or professional judgment, best describes the possibility that a topic will generate an event or exposure.

### **Prioritization of environmental risks and impacts**

From the results obtained from the MERI calculation, which fluctuate between 1 up to 16 considering the values assigned to the Probability and Severity variables, a matrix applicable to environmental risks and impacts was developed to establish a ranking of 4 levels of importance or hierarchy. The final standard is the following:

1. Level 1: MERI values between 1 and 3
2. Level 2: MERI values between 4 and 6
3. Level 3: MERI values between 8 and 9
4. Level 4: MERI values between 12 and 16

The most important or critical levels of MERI are the ones showing higher levels.

### **Classification of environmental risks and impacts**

The hierarchical order in terms of the importance of the risks and environmental impacts evaluated, and their priority of attention when implementing control measures, is established as follows:

MERI Value	Environmental risk/impact	Definition
1 to 3	Minor	The risk is acceptable
4 to 6	Moderate	The risk is tolerable
8 to 9	Important	The risk is concerning
12 to 16	Critical	The risk is not acceptable

### Control of environmental risks and impacts

Generally, and without exclusions, risk and impact reduction actions at levels acceptable to Proteak in any of its contracts, must 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.
- **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. For example, use of ventilation, soundproof booths, locking systems, equipment protections and machinery, robots, among others.
- **Administrative control.** - Information or warning to people about the presence of a danger, such as informative, warning or prohibition signs, alarms, safety sheets, etc.
  - Develop measures to ensure that work is carried out in accordance with the protection of health, as well as damage against the environment. These include procedures, instructions, inspections, observation of people's behavior, training, adequate supervision, etc.
- **Personal protection equipment.** - Personal protective equipment should be the last measure to be taken when responding to occupational hazards and should be used, in most cases, as a complementary measure.

### Specific actions according to classification for environmental risks and impacts

- **Lower risk and environmental impact** - It is acceptable for the organization. No need to improve preventive action. However, periodic checks are required to ensure that the effectiveness of the control measures is maintained.
- **Moderate risk and environmental impact** - It is tolerable for the organization. Efforts should be made to reduce environmental risks and impacts. The required measures must be implemented within a certain period. When they are associated with extremely harmful consequences, further action will be required to establish the probability of damage as a basis for determining the need for improvement of the control measures.
- **Important risk and environmental impact** - It is a concern for the organization. No work should be started until the risk and environmental impact has been reduced. When they correspond to a work being done, the problem must be solved in less time than moderate environmental risks and impacts.
- **Critical environmental risk and impact - Not acceptable for the organization.** It should not start or continue the work under any circumstances, until the risk and environmental impact is reduced to an acceptable level. In case it is not possible to reduce the impact, this work should be prohibited.

## 2.2 Local Stakeholder Consultation

For Proteak, the participation of stakeholders is an inclusive process that leads the project's life cycle. When designing and implementing adequately, this engagement supports the development of strong, constructive, and responsive relationships that are important for the successful management of environmental and social risks of a project. The Stakeholder participation is most effective when it starts at the project development process. It is an integral part of the decision-making process, and the evaluation, management, and monitoring of environmental and social impacts that might affect the project.

The objectives of the stakeholder participation plan for the management project are:

- To provide continuous information about the project to the public and agencies
- Provide timely and appropriate information before and during forest exploitation to allow informed participation in the project and the definition of appropriate mitigation measures.
- Encourage the equal participation of all affected groups in the process of consultation.
- Disclose project impacts and proposed mitigation measures.

- Provide ongoing information on the implementation of mitigation measures mitigation.

- Facilitate open and ongoing communication and consultation among various groups,

including stakeholders and the public.

The stakeholder engagement plan must be in place for the entire life of the project and will include scheduled formal consultations and meetings. The information will also be disclosed as necessary to address significant changes over time or other important project developments. The stakeholder participation process includes two key aspects:

- Early and ongoing dissemination to key stakeholders to provide information about the project.

- A feedback process to address complaints and grievances interposed during the implementation of the project.

## **IDENTIFICATION OF INTERESTED PARTIES**

The first step in the stakeholder engagement plan is to identify the key parties to be consulted and involved. Stakeholders are individuals or groups who are affected or likely to be affected by the project and who may have an interest in the project.

The stakeholder groups to be involved can be expanded during the implementation of the project. In addition to government agencies and organizations non-governmental, key stakeholders include people who live near the area of the project and have potential private interests.

## **STAKEHOLDER ANALYSIS**

### **Stakeholder analysis process**

Stakeholder analysis is the process of identifying groups of stakeholders who may affect or be affected by a proposed action and classify them according to their impact on the action and the impact the action will have on them. The analysis should also consider the design of consultations for the interested parties, who to consult and when.

The stakeholders that are involved are:

- Public administrations
- Non-governmental organizations / community groups

- Local Communities
- Providers near the areas of potential for forestry activity
- Neighboring companies located in the region
- Workers

The important concerns that these stakeholders have considered are:

#### Water

- Impact on the availability of water resources. Access to water was a key concern for the governmental communities.
- Discharge of pollutants and impact on water quality.

#### Air

- Gas emissions and impact on adjacent communities.

#### Ground

- Loss of topsoil during the project and the impact on agricultural productivity

#### Noise

- Disruption to adjacent communities by noise from vehicles and machinery

#### Visual Impact

- Changes in the landscape
- Cleaning up of sites after completion of harvesting

#### Traffic and Transportation

- Effects on vehicle access to the area during work on farms and during harvesting, processing, and transportation of wood.

#### Hazards

- Fires caused by machinery
- Air quality hazards
- Intoxication from the use of agrochemicals

#### Socio-Economic Waste

- Soil pollution from the use of chemicals
- Loss of prime agricultural land during project operation
- Loss of livelihood due to displacement of agricultural production
- Relocation of community members

- Job opportunities for the community during the project

## **Information Disclosure**

### **Dissemination of information**

There are a variety of participatory methods used to build relationships, collect information, consult, and disseminate project information to interested parties.

The following are the methods used as information diffusion:

#### Phone/E-mail/Text messages

- Distribute project information to officials from entities (government, organizations, agencies, and businesses)
- Informing stakeholders about consultation meetings

#### Print Media

- Disseminate project information to stakeholders
- Inform stakeholders about consultation meetings

#### Social Media/Website

- Disseminate information through specific sections on the company's website
- Create a social network account where information similar to that contained in the website is managed

#### One to One Meetings

- Build relationships with stakeholders
- Present project information using Powerpoints presentations
- Build relationships with high-level stakeholders
- Distribute technical documents.

#### Public Meetings

- Present the project information to a wider audience of stakeholders or a community through PowerPoint presentations, posters, videos or documents from project information.
- Building relationships with local communities
- Distribute non-technical project information

#### Focal Group Meetings

- Facilitate the meeting in smaller groups of 8-15 people to provide feedback on the Project

#### Workshops

- Present project information to a group of interested parties
- Use participatory exercises to facilitate group discussions focusing on exchanging ideas, analyze information, and develop recommendations and strategies

#### Dialogue Table

- Use prepared questions or gather preliminary questions to facilitate group discussions

#### Surveys

- 3 *Collect individual opinions from stakeholders*
- 4 *Collect baseline data*
- 5 *Register data*
- 6 *Develop a reference database to monitor the impacts*

#### Field Visits

- Collect individual stakeholder opinions

### **Stakeholder consultation process**

It is essential to plan each consultation process and to consult in an inclusive manner, document the process, and communicate the follow-up. Once the technique of participation is decided, you will determine the frequency of participation required for each stakeholder (by example, daily, weekly, monthly, quarterly, annual). Once the frequency is determined, you can choose a calendar that indicates the dates and places where you will be organizing the stakeholder's participation. List for each engagement activity, the responsible for the designated activity.

### **COMMUNICATION MECHANISMS / COMPLAINT HANDLING AND FEEDBACK**

A grievance mechanism is in place to deal with complaints and grievances concerns that stakeholders may have. It is anticipated that some of these concerns may include eligibility criteria and compensation rights for loss of livelihood or land use.

The mechanism for handling complaints and grievances includes:

- A system of reports and records.
- Grievance assessment procedure.
- A time frame for responding to complaints.
- The mechanisms for adjudicating complaints and appeals.

In the interest of all stakeholders, the grievance, and complaint handling mechanism is designed to resolve disputes as quickly as possible. The parties must be heard and, as such, must be fairly represented through a complete process.

In the HANDLING OF COMPLAINTS AND EXTERNAL FEEDBACK report, the project proponent is to provide Stakeholders with an accessible and effective process to file complaints, claims and/or concerns that may arise about the Project activities. Proteak recognizes that this report must be responsible and fair.

Verbal and written complaints related to the communities will be the responsibility of the Coordinator of Environmental and Social Responsibility in collaboration with the Forestry area in plantations, harvesting and transportation, and from contractors.

Verbal and written complaints related to Proteak personnel are governed by the Proteak's Internal Complaints and Claims Management Procedure and are in charge of the Coordinator of Environmental and Social Responsibility, in collaboration with the designated contractors.

The report should comply with the following objectives:

- Proportional: The report will take into account in a proportional manner, the level of risk and possible negative impacts on the affected areas.
- Culturally appropriate: The report is designed to take into account the customs local area.
- Accessible: The report is designed in a clear and simple way to be understood by all people. There will be no cost associated with it.
- Anonymous: The complainant may remain anonymous, as long as it does not interfere with a possible solution to the complaint or problem. Anonymity is distinguished from confidentiality in that it is an anonymous report, no personal data is recorded (name, address) of the plaintiff.

- Confidential: Proteak will respect the confidentiality of the complaint. The information and details about a confidential report are only shared internally, and so only when it is necessary to inform or coordinate with the authorities.

- Transparent: The process and operation of the MAQR is transparent, predictable, and easily available for use by the population. Complaints will be made known on the bulletin board of the Forestry area.

The main objectives of this report are:

- To ensure active participation of Stakeholders throughout the life of the Project.
- Allow two-way communication with stakeholders.
- Identify potential environmental, social, or occupational health and safety risks or community not previously identified.
- Resolve or avoid conflicts, manifestations, doubts or claims of the interested parties.
- Communicate the solutions to the Complaints and Feedback received.

The report is aligned with the international requirements and best practices established by the International Financial Institutions (e.g. Equator Principles and International Finance Corporation Performance Standards).

### **INTERNATIONAL BEST PRACTICE REQUIREMENTS**

The report aims to meet and align with international best practices, specifically with the Equator Principles and the Corporation's Performance Standards International Finance Corporation (IFC).

Principle 3 of the Equator Principles requires that projects comply with the International Finance Corporation Performance Standards.

Principle 6 describes the implementation of a complaints mechanism to ensure consultation, outreach, and ongoing community participation throughout the construction and operation of the Project. This principle specifies that "the complaint mechanism must be adapted to the risks and impacts of the Project, and the Affected Communities must be its main users. Efforts should be made to resolve concerns promptly, employing an understandable and transparent consultation process that is culturally appropriate and easily accessible, without cost, and without any retaliation for those who raised the issue or concern".

International Finance Corporation (IFC) Performance Standard 1 describes the components of effective social and environmental assessment and management

systems. A vital component of this is to create and maintain a constructive relationship with the Parties Stakeholders and communities.

This report is guided by the principles outlined in IFC's publication, Stakeholder Engagement: A Handbook of Good Practice for Companies Operating in Emerging Markets. The document states that the objective of a report is to ensure a process that provides opportunities for stakeholders to express their views and concerns, and to enable the Project to consider and respond to stakeholder concerns. In order to fully implement these recommendations, Proteak:

- Provides relevant information in a format and language that is easily understandable and adapted to the needs of the interested target audience(s).
- Provides information in advance of consultation and decision-making activities.
- Disseminates the information in the manner and places that make it easy for stakeholders to access.
- Respects local traditions, languages, time frames and decision-making processes.
- Uses two methods of dialogue that give both parties the opportunity to exchange views and information, to listen, and to have their complaints heard and addressed.
- Considers the possibility of inclusion in the representation of different points of view, including women, vulnerable groups, and/or minority groups.
- Avoids intimidation or coercion procedures.
- Provides clear mechanisms for responding to people's concerns, suggestions, and complaints.
- Incorporates feedback while keeping stakeholders informed.

## **HOW THE REPORT WORKS**

This report consists of four steps: 1) Notification, 2) Confirmation, 3) Assessment, and 4) Follow-up.

In the first step the Plantation or Harvest Supervisor receives the claim and notifies the Plantation or Harvest Manager via email; in the second step the Plantation or Harvest Manager together with the Plantation or Harvest Supervisor verifies and analyzes the claim; in the third step an assessment and judgment of the claim is made and a plan of action is established in conjunction with the Forestry Management; finally in the fourth step, the Head of Plantations or Harvesting along with the corresponding staff follows up on the complaints and feedback.

## COMPLAINTS AND FEEDBACK PROCEDURE

The Project has an efficient tool for the collection, monitoring, and notification of complaints and feedback. The process is documented by a complaint and feedback log (in a physical file and a database). The procedure is initiated by notification of the complaint or feedback (either orally or written) by the plaintiff. The process ends with closure and compliance with the resolution of both parties (the plaintiff and the Project). The names and contact details of the person responsible for receiving the complaints or Feedback will be communicated to the population at large. The Forest Manager determines, on a case-by-case basis, who and in what area they will investigate and respond (internally) to the complaint or feedback.

In the case of internal complaints or feedback, the contractor must coordinate with the Project staff to respond to worker complaints or feedback in a manner that is satisfactory to all parties. Internal complaints or feedback are governed by the Complaint Management Procedure and Proteak's Internal Claims and in charge of the Environmental and Social Responsibility Coordinator, in collaboration with the officials designated by the contractors.

The steps that are followed are:

### **1. Notification:** Receive and record complaints and feedback.

Complaints and feedback may be submitted orally or in writing; preferably the complainant will be directed to the Chief Planter or Harvester. All complaints and feedback submitted are documented by the Project's Environmental and Social Responsibility area, which maintains records at this office. For the reception of complaints and feedback, a format is provided to the plaintiff. In the event that the plaintiff prefers to use another format, it is used and then the staff transcribes it to this format by attaching the original of the complaint or feedback submitted.

An email is also established, and a cell phone line is available, to communicate directly with the Head of Plantations or Harvest. It is intended that the community can make their complaints and feedback even after hours and during weekends. If the call has not been taken by the Head of Plantations or Harvest, the interested party may leave a message on the voice mail. The messages in the voice mail will be checked and processed in a period not longer than 24 working hours. It is necessary that the interested party provides information about the time and date of the call, name, place of residence, and the source of the complaint or feedback. On the written form, the complainant shall identify himself/herself, the person receiving the complaint or feedback will check whether it was submitted directly by the affected person or on behalf of the same with your knowledge and consent. In the event that

the complainant requires assistance in writing the complaint or feedback, the Project staff will assist them. If this is the case, once the complaint is written, the Project staff will read it aloud to the complainant in the presence of a witness.

**2. Confirmation:** Within a period not exceeding seven working days, the Project will have to evaluate the documentation submitted by the plaintiff. If any additional information is required for the correct evaluation of the complaint or feedback, the Forest Project Manager will contact the applicant within a maximum of ten working days, to obtain the necessary information. Once the complaint or feedback is completed and reviewed, the Forestry Manager or Head of Plantations or Harvesting proceeds to register and assign a code to each complaint or feedback.

The file should include, along with the complaint or feedback, a summary of the complaint or feedback made by the Project and the name of the person who received and processed it. The Registration information will be updated bi-weekly to reflect the current status of the case until the complaint or feedback has been finally resolved.

**3. Assessment: Examine and evaluate.**

In the Forest Management, complaints or feedback are evaluated and transmitted to all those involved in the event. Complaints or feedback from the Project are classified into four categories:

NOT ADMISSIBLE: Complaints or feedback that do not comply with one or more of these

requirements:

1. Not directly related to the Project, its contractors or subcontractors.
2. Its nature exceeds the scope of the present report.
3. There is no real cause of action.
4. There are other formal mechanisms and institutions for filing the complaint.

LOW IMPORTANCE: This category corresponds to complaints or feedback that do not require resolution, but only require information or some clarification that must be provided to the applicant. This category includes complaints or feedback that have been previously evaluated and received a final response from the Project.

MEDIUM IMPORTANCE: Complaints and feedback related to health, the environment, construction, transportation, contractors, and subcontractors.

HIGH IMPORTANCE: Includes safety-related complaints or feedback of Project staff, as well as those related to the health and safety of people involved.

The recipient of the complaint or feedback coordinates with appropriate personnel to evaluate the complaint or feedback urgently and determine the course of action to be taken. The evaluation of the complaint or feedback in these cases may not exceed three days from its receipt. In the event that additional information is needed for your

If the evaluation is adequate, the Forestry Manager or Head of Plantations or Harvesting will contact within a maximum of five working days to gather the necessary information. The Forestry Manager or Head of Plantations or Harvest will inform the complainant and/or his/her representative in writing that the requested information must be delivered within a period not exceeding 10 working days from the date of reception. If the complainant does not provide the requested information within the time limit, he or she will be informed of The deadline has not been met, and the parties involved have been informed in writing that the deadline has not been met. This does not mean that the complaint or feedback is rejected, but only that it could not be evaluated due to lack of documentation. In this case, the complainant may file the same complaint or feedback again, however, it will be treated as a new one and must follow its normal course.

### **Special procedure for complaints or feedback of high importance**

The complaint enters an expedited process of investigation and resolution by the Forestry Manager and the Social and Environmental Manager. If necessary, officials from greater range, depending on the severity of the complaint. In the case of complaints related to illegal or abusive acts, the Project will immediately begin the investigation and will coordinate with local authorities to properly address the issue. Plantation or harvest team staff (two people), assigned by the Forestry Manager, will meet with the complainant to gather additional information when necessary. The complaint will then be investigated (i.e., meet with members of the security team involved in the complaint when necessary) and develop and implement corrective actions in collaboration with the Head of Plantations or Harvest and the Project's Forestry Manager. If the staff of the planting or harvesting team are men and the author prefers to speak with a woman, or vice versa, the Project will facilitate that work. If it is deemed necessary, further research will be carried out quickly.

If the complaint does not proceed, then the following will occur:

## 1. Dismiss the complaint

Dismissal will occur if the complaint does not meet the admission requirements indicated above. If the complaint is dismissed, the complainant is informed of this decision and the reasons for the rejection. The complainant will have the option to refute the decision of the Project. For this purpose, the plaintiff shall have three working days from the date of the notification, indicating the registration code of the claim, to be able to appeal to the response of the Project.

## 2. Complement (as appropriate)

Plaintiffs often provide incomplete information. Therefore, whenever possible, additional information will be required in accordance with the deadlines defined above. Direct contact with the complainant is recommended in all cases to maintain an open dialogue.

If the demand proceeds, the following steps must be followed:

### 1. Define the approach

The Forestry Manager together with a representative of the Legal Area must evaluate and determine the origin of the complaint and define the actions to be taken as an answer. If necessary, a visit will be made to the area where the demand originates (e.g. to a specific community, or area affected by the Project). This is done jointly with the plaintiff. The objective of this visit is to verify and investigate the situation indicated by the applicant to obtain a technical opinion, collect information or results, and details about the plaintiff's arguments.

On a case-by-case basis, Proteak will define the approach to be taken, if

1. Proteak proposes a solution.
2. The plaintiff and Proteak develop a solution together.
3. Proteak uses more traditional and culturally appropriate practices (e.g. consult with community or ejido leaders) to resolve the complaint.

After the response to the complaint has been written, the Forestry Manager will prepare a report justifying the proposed solution or the reasons for its rejection. This report will be sent to the Social and Environmental Manager for evaluation. In total it shall take 14 business days to formally notify the complainant.

## 4. Follow-up: Communicate the decision

### 1. Anonymous claimant

In the case of anonymous complaints, these will be posted on the office bulletin board of the Forest Management, together with Proteak's response, indicating the solution or updated status of the procedure. This publication will be produced for a period of 30 working days from the registration of the complaint.

## 2. Plaintiff identified

When a claim is determined to be acceptable, the claimant must be informed of the:

- Category of the classification assigned to the demand.
- The code record assigned to the demand to allow for tracking.
- In the event that the complaint is classified as "Low Importance" and the Project has already responded to the complaint, this will be communicated showing the evidence of its resolution satisfactory; and
- Possible dates for a meeting, for the purpose of clarification or to seek the consensus of the parties involved.

## 3. Challenging the decision

In the event that the applicant intends to appeal the decision of the Project, the applicant may consider involving a third party to resolve the dispute.

### **Implementation approach**

Once a complaint or feedback is deemed valid, Proteak will contact to begin negotiations and dialogue:

1. If the complaint or feedback is accepted, the person responsible for the project will try to reach a settlement directly with the plaintiff. If a settlement is reached, this will be reviewed by Proteak.

If it is not possible to reach an agreement, the report must include the reasons for the complaint or feedback and the arguments of the plaintiff, as well as the possible alternatives of solution presented.

If the complaint is not accepted by Proteak, the report must describe the arguments and reasons for determining that the complaint is not valid.

In the event that a settlement is not reached through the report, the complainant may initiate a legal action against Proteak or a request for arbitration to resolve the conflict. If the agreement is reached, the arguments and conditions under which it is signed will be reviewed by Proteak for its

implementation. Once there is an agreed solution to the complaint or feedback, either through a mutual agreement or through judicial or arbitration, the case will be considered closed only if there is a document that proves satisfaction of the applicant and the project.

### **Follow-up and documentation**

In the event that Proteak and the plaintiff reach an agreement at any stage of the process, the Social and Environmental Manager or the Forestry Manager are the responsible for preparing a report on the terms of the agreement, which will be sent to Proteak's legal department.

The Forestry Manager is responsible for maintaining an updated database with all documentation and information related to complaints or feedback that are presented. It is also responsible for following up on the processing of complaints or feedback in coordination with the areas involved, and to facilitate participation of the plaintiff in the process. A follow-up form is completed for each case. Once an agreement is reached, the Environmental Liability Coordinator and Social is responsible for following up to confirm that the resolution measures corresponding are being applied.

The complaint or feedback log shows that all these actions and processes are carried out. In this format there will be collected:

- Date the complaint or feedback was recorded.
- Person responsible for the complaint or feedback.
- Information on corrective actions proposed/communicated by the plaintiff (if applicable).
- Date the complaint or feedback was closed; and
- Date the response was sent to the complainant.

### **Deadlines**

All complaints must be resolved within 30 days.

## **MONITORING AND REPORTING**

### **MONITORING**

The report will be continuously monitored and is designed to facilitate the integration of the lessons learned during its execution. In this way, the Project will be able to respond appropriately to situations as soon as they develop. The

report is considered a "dynamic document" and is designed to be updated and improved continuously.

The objectives of the monitoring program are:

- To verify the implementation of the specific actions of the report
- To continuously evaluate the solutions given for each complaint or Feedback and adjustment, if necessary; and
- Closely observe events, incidents, and other relevant information to ensure proper and on-time handling of them.

Complaints	Proposed actions	Objective	Responsibility	Programming	Resources	Monitoring	Report
Complaints or Feedback of the Parties External Stakeholders	The Project will respond to all complaints or Feedback on a timely basis (maximum of 30 days, more quickly for discharge complaints priority). They will be made all efforts reasonable for resolve the complaint of such way that the plaintiff is satisfied. Always as much as possible, it is will make changes in the policies business and codes of conduct to prevent future incidents.	Maintain productive relations with the interested parties.	Social and Environmental Responsibility Coordinator.	Complaints resolved within 30 working days.	Social and Environmental Responsibility Coordinator, Forestry Manager and all necessary local support staff.	The Project will maintain a complaint log and track the number of new and closed complaints.	The Forestry Manager will prepare fortnightly reports, provide key performance indicators in the monthly reports.
Complaints or Feedback of the Parties Internal Stakeholders	The Project will work with the subcontractors to respond to all complaints or Feedback of the workers on time (maximum 30 working days). All reasonable efforts will be made to solve the complaints from the workers, without affecting the budget or the calendar.	Respect the rights of the workers and to maintain the good relations at work, give the workers appropriate answers, reach satisfactory agreements, and if necessary, give them compensation or impose sanctions	Coordinator of Social and Environmental Responsibility and Subcontractor	The complaints must be resolved in 15 days.	Responsible: Coordinator of Social and Environmental Responsibility , Corporate Manager of Human Resources and all the necessary staff .	The Project will maintain a record of complaints and will perform a monitoring of the number of new and closed complaints.	The Corporate Manager of Human Resources will prepare reports fortnightly, provide indicators Key to performance in the reports monthly.

The effectiveness of the complaint and feedback mechanism will be evaluated through the following indicators:

- R1: All complaints received are resolved within 30 days (and with greater speed in urgent cases) and there is evidence to show changes in the project activities that motivated the complaint.
- R2: High level of satisfaction (over 85% of the complainants interviewed are satisfied with the outcome of your complaint); and
- R3: Complaints received and determined to be legitimate have resulted in a disciplinary action, or to a change in the Project's policies or procedures.

## **REPORT**

In both personal and business relationships, follow-up is important. The same principle applies to stakeholder participation. Once they have consultation, stakeholders will want to know which of their suggestions will be used, what risk or impact mitigation measures will be implemented to address their concerns and how, for example, the project's impacts are monitored. Often, the same methods used in information disclosure apply to inform the interested parties. This follow-up may include brochures, meetings, and publications on easily accessible bulletin boards.

### **Informing stakeholders**

Informing stakeholders involves providing important details about the commitments, the status, and progress of the project. Reporting to stakeholders may also include new or corrected information since the last report. Follow up on the many commitments made to the various stakeholders at various times, and communicate progress made against these commitments on a regular basis, requires planning and organization.

The monitoring report on the implementation of the report will be prepared annually and will have the following format:

1. Executive Summary
2. Introduction
3. Summary of lessons learned
4. Status of implementation of each action described
5. Annexes o Documentary evidence.

## **CONTINUOUS IMPROVEMENT**

To ensure continuous improvement, the Project is committed to evaluating, reviewing and updating the report on an annual basis. The evaluation and review of the MAQR will be conducted by the Social and Environmental Manager of the Project together with the Forestry Manager. Once this review and evaluation has been conducted, the Coordinator of Environmental and Social Responsibility will approve the necessary modifications.

As mentioned before, the commitment Proteak has made to their participation in the Global Compact, in support for human rights principles, labor rights, protection of the environment and the fight against corruption, is critical

because they represent congruence with the principles and values, as well as with Proteak's internal policy.

### 2.3 AFOLU-Specific Safeguards

There is no displacement occurring due to the project activity. In fact, the local communities have positive attitude towards the project activity due to the following reasons:

- Increase their incomes: The objective of the Project Proponent is sustainable management of the project area. Low-income families in the area will get more opportunities to increase their income. This will be 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 and its staff have a very good experience and knowledge of sustainable management of teak and will 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's Environment Policy guides the staff to be a responsible administrator of the natural resources that they manage. The restoration plans have the objective of promoting sustainable practices during and after the use of resources. In them, 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 allows us to promote proposals for plant restoration, strengthen e-systems, and generate habitats for native species.

Proteak works on strategies that help meet many objectives towards social responsibility, that is why the company focus in the process of change and transformation. Proteak seeks to embrace all the stakeholders with values and ethics, and considering the following stakeholders: Collaborators, Environment, Suppliers, Customers, 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.

As part of the commitments acquired with the International Finance Corporation (IFC) and the Global Compact, Proteak developed an Environmental, Social and Occupational Health and Safety Policy, committing itself to follow good corporate practices that comply with all applicable legislation at the national and international levels.

The following are the programs that support Proteak's Human Rights commitment and social support:

- *Proteak te escucha* Initiative: The company has strengthened its Method of Attention to complaints, expanding the number of stakeholders who have been informed about the procedure to follow in case the activity of the company causes harm or injury. It has also created a Telephone assistance, installation of mailboxes and a specific section on the company's website for process complaints or claims.
- Education initiative: Actions were taken to promote the education of our employees through the program of the Institute of Education for the Elderly of Tabasco.
- *Bosques de Oportunidades* initiative: Proteak establishes a management aimed at social and environmental improvement. They seek through it to establish a solid communication channel with all the stakeholders, to know their expectations and developing them, as well as to contribute to the participation with the various neighboring educational institutions. Additionally, Proteak has opened the possibility to more employability opportunities for community members and young members of the population.

They have organized the Open Door Policy, with which they invite educational institutions to visit the facilities and learn about the operational processes, and in turn contribute to their formation in environmental awareness.

- Women Empowerment: There are several cases that demonstrate Proteak's commitment to facilitate the integration of women into the labor market, empowering them with the development of specific skills.
- Empowering people with disabilities: The establishment of our Congruence program recognizes the unique talents and abilities of employees, regardless of the disability they may have. This initiative seeks to encourage the recruitment of professionals with some level of disability.

Within the environmental initiatives, Proteak is committed to the correct application and evaluation of the environmental management system (ISO 14001) 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.

*The mitigation processes related to social or environmental aspects, following an identification of certain risk or impact, are stated in Section 2.1.*

*Issues related to the communication between Proteak and the interested parties/stakeholders, are addressed in Section 2.2.*

*Annex 1 shows the set of annual social impact evaluations that the company develops to gather information about the community's thoughts and relation to the project.*

## 7 IMPLEMENTATION STATUS

### 3.1 Implementation Status of the Project Activity

Status of implementation of the project: underway. The strategy for achieving emission reductions presented in the Project Description, has been consolidated following the first Monitoring Report and this second report of the Fresh Breeze Afforestation Project. 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). That is, to train new combatants with the basic skills to fight fires considering safety as a priority.
- 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.

*Annex 2 exposes the activities that were followed by the project during the monitoring period.*

For Leakage Monitoring (determining the amount of deforestation in the leakage belt is attributable to the project activity), activities regarding environmental education and land and fire management are being implemented. The area and terrains where the plantations are established, are under Proteak's name or were rented by the company. Therefore, there are no communities that were displaced from the region. Thus, leakage monitoring is not focused on the communities that could have migrated to other areas due to the project, but on the implementation, evaluation, and monitoring of educational programs and general aid that could help the communities have better livelihoods and undergo a correctly based land and environmental management.

Furthermore, in the PD was determined that leakage is not contemplated due to:

1. 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. The project activity is not related with the shifting of grazing animals or households or communities, therefore, this condition is neglected.
3. The project activity is not involved with a Wetland Restoration and Conservation project; therefore, this leakage is not included.

Regarding the Monitoring and Non-permanence Risk Factors Management, the following factors will be found subject to monitoring:

## **Internal Risks**

### Project Management

- According to Proteak it is necessary to protect project areas in a 100% to avoid the risk of illegal logging. This can be confirmed during the site visit.
- Proteak management team involved in the project management includes individuals with significant experience in sustainable forestry. The company was founded in 2001 in Mexico, which means that its management team has more than 11 years of experience in the forestry sector.
- Proteak Management team has its office in Mexico City, located 12 hours by

car or less from all the parcels. Contact info from their website is provided. Also, each site has their own office.

- Co2 Solutions corporate presentation demonstrate the experience in Carbon credit projects under VCS and CDM.

#### Financial Viability

- The investment analysis of the project shows that the project cash flow breakeven point is in 6 years. In this year (2026), the project cash flow turns positive.
- Project has secured 100% of the funding needed to cover the total cash out for the plantation establishments, these funds will be provided by Proteak sale of shares.
- The project has incentives from CONAFOR program, and it is possible to call for more resources coming from the stock exchange of Proteak.
- Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven.

#### Opportunity Cost

- NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity.
- An evaluation was made in the hypothetical case that the option of an agriculture project, all the land is used to produce corn. The comparison of the NPV of both scenarios shows that the NPV of the project is activity more than the 50% compared to the most profitable alternative.
- Mitigation: Project proponent is a non-profit organization.
- Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over the length of the project crediting period.
- The project proponent has an FSC (Forest Stewardship Council) certificate which includes a legal commitment to continue with the sustainable management of the project activity during the length of the project activity.
- However, due the FSC Certificate does not include all the project plantations is not counted as mitigated option.
- Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over at least 100 years.

## Project Longevity

- The project longevity is 50 years ( $24 - (\text{project longevity} / 5)$ ) given the duration of each cycle (2 cycles of 25 years each). There is a commitment with the FSC Certificate, however, because the FSC Certificate does not include all the project plantations, because the plantations are included when they reach a certain age, it is stated that the project activity does not have a legal agreement to assess the risk and, considering the plantations in place, the project longevity would be 50. Furthermore, the same parameters that satisfied this certification are included and applied in every plantation since the beginning. The CBRE group validated this period in the attached file *Teak Report*.

## **EXTERNAL**

### Land Tenure and Resources Access/Impacts

- Ownership and resource access/use rights are held by same entity.
- Most of the terrains involved in the project are property of Proteak UNO SAB de C.V. The land tenure contract of each terrain is provided to demonstrate that the ownership and use rights are held by same entity.
- Ownership and resource access/use rights are held by different entity(s) (eg, land is government owned and the project proponent holds a lease or concession).
- There are no disputes over land ownership or land tenure for any part of the project area. This is proved through the land tenure contracts, for each land involved in the project activity.
- No disputes exist. This can be proved through the Land tenure contracts.
- The project does not fall in the Wetland Restoration and conservation category. Thus, this section is not applicable.
- Mitigation: Project area is protected by legally binding commitment (eg, a conservation easement or protected area) to continue management practices.

### Community Engagement

- According to the AFOLU Non-permanence Risk Tool, 1) "Where local populations are not reliant on the project area, the risk is not relevant to the project and the risk rating GOR CE shall be zero". Since the population isn't

reliant of the project area for provisions such as food, medicine, construction material, etc. the risk rate of Community Engagement it's cero.

### Political Risks

- Mexico governance average is -0.32. This is the mean of the six indicators obtained from the World Bank Institute's Worldwide Governance Indicator.
- Mitigation: Country is implementing REDD+ Readiness or other activities. Mexico is participating in the REDD program.

For the Natural Risk section assessment, each state is evaluated separately since some of the information found is different for each region involved in the project activity.

It is important to state that Proteak UNO S.A.B. de C.V. has implemented several prevent measurements to decrease the natural risk.

1. The project plantations are selected in a strategic way, therefore, if something does happen in the area, only a small percentage of the total plantation is affected. Therefore, the selection of plantations is based on the risk analysis of the region, is presented as evidence the hurricane and fire risk analysis.
2. For the fire prevention, the PP makes "Guardarrayas"5 in all the plantations, in other case for hurricane and inundation preventions the PP makes road works and drainage to prevent any damage.
3. Proteak UNO S.A.B. de C.V. has requested training to the National Forestry Commission (CONAFOR) to be capacitated for preventing and fighting forest fires.
4. Additionally, in the case of a forest fire, there are always 5 members of Proteak that form the fire brigade, they have some tools to combat the fire such as rakes, fire pumps, chainsaw, shovels, sprayers, pumps for water extraction thousand-liter water tank.

### Fire Risk

Insignificant

Statistics on the number of Forest hectares affected by a Fire in Tabasco state are provided by the CONAFOR (National Forest Commission), which is part of the SEMARNAT (Secretary of Environment and Natural Resources), Mexico's Designated National Authority. An analysis of these data shows that approximately 30,000 ha of Forest have been affected in the last 22 years. Which means that is approximately 1,363 ha/year.

According to INEGI data, the surface forest in Tabasco comprehends a total of

85,406 ha. This means that in a year is affected about 1.59% of the total surface, considering this tendency during the last 22 years. Considering this, the significance of fire risk can be assessed as Insignificant (less than 5% of loss of carbon stock).

### Pest and Disease Risk

Insignificant

According to CONAFOR there are 2 plagues and 1 disease present in Tabasco state, these plagues are already controlled and have the support of the state, which means they do not represent a significant risk for the project.

Searching other kind of resource, according to the FAO8 only 9,800 ha of forest were disturbed by pest and disease in México in the year 2000. With a total forest area of 64 million ha, according to FAO's National Inform of Mexico9, this implies that less than 0.02% of Mexican forest is affected annually. Thus, the risk is insignificant with likelihood to occur less than every 10 years.

Furthermore, Risks of pests and disease found in plantation forests in the project region are mitigated by correctly forest management plans and close oversight. Also, local foresters have access to pest and disease management expertise with CONAFOR (National Forest Commission).

### Extreme Weather Risk

Minor

Extreme weather risks affecting this project area include rain induced flooding and drought.

According to the National Risks Atlas10 of México, the risk of flood in Tabasco state is medium, and likely to occur less than every 10 years. According to the reference of the map, the CENAPRED states that the medium risk means and effect without deceases and moderate damage.

The effect on the planted trees is not considered to be severe, since the terrain selected for the project activity are chosen with a natural topography that it is not prone to flooding. Due this, the effects on the tree plantations in case of a flood are likely to have a minor impact (less than 25% loss of carbon stocks), this is evidence with other document of the CENAPRED that shows that the damage has been about 10%.

Unlike floods, droughts are rare to happen in Tabasco state. As it can be seen in the map "Degree of drought risk" of the National Risk Atlas of México, the risk of drought in Nayarit region is considered to be very low, with insignificant impact on the carbon stocks (less than 5%)12, also Tabasco is not in the list of the main risk drought states in

Mexico, which confirm the lower risk.

According to the National Risk Atlas of Mexico the probability that happen a cyclone or hurricane is 0.08, in spite of the value the last records of hurricanes in Mexico shows that in the years 1933-2000 there is one hurricane that affected the state in the year 1933, however, only there is a report of an affectation of the houses of the state.

The highest likelihood and greatest significance (that of flooding) is used to assess the risk of extreme weather.

### Geological Risk

Insignificant.

Geological risks in Tabasco include only earthquakes since there are not any Volcanoes neither landslide within this region.

Earthquake intensity in Tabasco is low according to the map "Seismic zones and regions" of the National Risk Atlas of México. Furthermore, earthquakes in this region are unlikely to result in a significant loss to projects carbon stocks due to its very low intensity. The significance of geologic risk is estimated at insignificant with a likelihood frequency of every 10 to less than 25 years.

## 3.2 Deviations

### 3.2.1 Methodology Deviations

During this monitoring period, no methodology deviations were applied.

### 3.2.2 Project Description Deviations

During the previous monitoring period, project deviations were approved and applied also during the current monitoring period.

#### **Height**

Reason of change: The height was measured for each species; however, it was found that the way to the field inventory was imprecise. Using the information from the field related to the DBH values and using a quadratic regression with more than 3000 data, the values of height were obtained and applied during the first monitoring period and for this second monitoring period.

The change took place on February 17, 2015, through the publication of the evaluation of biological assets. According to PD, measurements of height and DBH

forest would be under national procedures. Proteak, according to these procedures, performed some experiments and developed a complete procedure for the efficient measurement of a plantation. Therefore, Proteak designed a new Policy related to the "*Procedures for the valuation of biological assets*". This policy describes the procedure to measure the DBH and perform a calculation for the estimation of the Height.

The use of a formula to estimate the height of the species was validated by an investigation made by the Forestry Engineer José Rogelio Reyes, in his thesis explaining that due to the time, cost is not a common practice to measure the height of the species. He explains that there is a straight relation between the diameter and the height. Therefore, the way to determine the height is by using a regression.

Proteak made the regression with more than 3,000 trees measure and this equation follows the Methodological Tool to Demonstrate appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities"

The condition that is satisfied is that the equation was derived from a data set of at least 30 sample trees and the value of coefficient of determination ( $R^2$ ) obtained was not less than 0.85. In this case the sample trees are from about 3,000 and the coefficient of determination is 0.86.

The decision on changing the height measurement was evaluated by three parts of Proteak, General Manager Executives, Corporate Comptroller, and Internal Audit Department. It is important to state that Proteak is a Company listed in the Mexican Stock Exchange, because of this commitment; Proteak has a great responsibility in making an inventory of quality.

The change in the Height variable will be described in section 3.2.

In compliance VCS standard version 4.0, it is confirmed that the deviation of the measurement of height doesn't affect the applicability of the methodology, additionality or the appropriateness of the baseline scenario, saying that it is confirmed that the project remains in compliance with the applied methodology. The applicability conditions of the methodology are not related to the measurement of the height.

The new formula uses a valid formula according to the Methodological Tool to Demonstrate appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities, therefore there is not any change in the baseline scenario.

According to the same standard every subsequent monitoring period will demonstrate that the change does not affect the methodology,

## **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.

The registered P.D. 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 there is a change of the Plot Size, the new plot has a form of a circle with a radio of 10 m, which means that the area per plot is 0.0314 ha.

That change will be applied in the calculation of the sampling plots in order to obtain the value applied.

In compliance with Section 3.6.1 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, additionality or the appropriateness of the baseline scenario, saying that it's confirmed that the project remains in compliance with the applied methodology. The applicability conditions are not related to the plot size.

However, the plot size and the number of plots is related to a methodological tool, Proteak demonstrated that the change of the plot size is affected in the number of plots required. And using the procedure they demonstrate that the measurement complies with this data, additionally the uncertainty of the project measurements confirms that the project is overvalued.

According to the same standard every subsequent monitoring period will demonstrate that the change does not affect the methodology, with a new calculation of required plots and the uncertainty.

## **Thinning Period**

As it was established in the registered PD, the project established that the first thinning period will be on the year 7, however, some plantations during the third year made the first thinning process.

The reason for this change is because they have noticed that they each are affected by species around preventing the growth completely. Thinning's main objective is to preserve the species that can achieve optimum growth and that is not affected by species around.

Additionally, it must be clarified that the volumes shown in the *Volumes Thinned* file do not represent commercial thinning processes in the plantations. Due to the quality of the soil and the ground on which the plantations are established, the thinning process was therefore suspended and postponed. The values represent natural thinning processes that are generated by natural conditions to which the individuals are exposed. Furthermore, these values are below the value that was planned in the *Programa de Manejo files (Section Resumen Ejecutivo in Producción esperada and Silvicultura y manejo)* because, as mentioned before, those thinning procedures are only recurring natural processes.

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

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

It has developed a descriptive document, which describes in more detail the change in the process.

In conclusion, the change in the 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 this monitoring report.

### **Project Longevity**

The project longevity was clarified and verified to be 50 years given the duration of each cycle (2 cycles of 25 years each) and the appropriateness of this time frame with the management procedure determined in the plantations. There is a commitment with the FSC Certificate (P116\_VER\_083) in which all the plantations are included as mentioned before in section 3. Furthermore, the same parameters that satisfied this certification are included and applied in every plantation since the beginning. The CBRE group (Third party) validated this period in the attached file *Teak Report*.

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 version 4.0 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.

### 3.3 Grouped Projects

The New Project Activity Instance includes the plantations of:

- Piedra Santa planted in 2012: 160 ha
- Capitán planted in 2009: 56.48 ha
- Empeño 8 planted in 2009: 13.03 ha
- Victoria 7 planted in 2009: 11.06 ha
- Tacotalpa planted in 2013, 2014, 2015: 1,104 ha

These plantations (KML of each plantation are provided in the Plantaciones2020 file and in the New Areas folder) are considered to be part of the whole collective and sustainable system and is integrated in the area that is part of the terrain used for this project. The applicable methodology is the CDM consolidated methodology AR-ACM0003: "Afforestation and reforestation of lands except wetlands" v1.0.0, followed by the specific tools.

The following tools are applied following the data/equations in Sections 4.1, 4.2, and 5 used for the calculations that were presented:

- "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
- "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities" Version 1.1.0
- "Calculation of the number of sample plots for measurements within A/R CDM project activities" Version 2.1.0

In addition, the following tools apply:

- "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 non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity” mentions the following applicability condition: Non-CO2 GHG emissions resulting from any occurrence of fire within the project boundary shall be accounted for each incidence of fire which affects an area greater than the minimum threshold area reported by the host Party for the purpose of defining forest, provided that the accumulated area affected by such fires in a given year is  $\geq 5\%$  of the project area. In the case of an incident occurs the previous tool will apply to the emission reductions calculation.

- “Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity” Version 2

“Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity”, mentions that the tool is not applicable if the displacement of agricultural activities attributable to the project activity is expected to cause any drainage of wetlands or peat lands. The project activity does not fall in wetland region; therefore, this applicable condition does not apply to the project activity.

- “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” Version 1
  - As stated in the PD, the baseline scenario analysis is made for the three states where the project activity expects to establish all the plantations and all the future plantations, therefore, the baselines scenario is common in all the three states, which means that the analysis and determination of the baseline was made considering the three states. Furthermore, the main activity that preserves in the land is cultivated pasture.

In the baseline scenario (PD), credible alternative land use scenarios are shown:

1. Continuation of pre-project land use (extensive cattle grazing with no pasture improvement).
2. Afforestation
3. Other alternatives
  - Land use for agricultural practices: Even if the land has a potential for agricultural practices, as established in Sections Características físicas y biológicas del

ecosistema forestal and Tipos de Vegetación of the Programa de Manejo, the degraded condition of the land would not support these practices. Moreover, farmers would not afford the costs for preparation of land for carrying cultivation. The lack of irrigation, lack of proper upkeep and degraded nature of land can reduce the production; therefore, the yield will be poor compared to investment.

4. Forestation of at least a part of the land within the project boundary of the proposed project.

In the PD, identification of barriers that would prevent the implementation of at least one alternative land use scenarios are shown.

Following is a list of possible barriers for the land-use alternatives identified above:

- Barriers due to local ecological conditions, inter alia:
  - Degraded soil
  - High erosion risk (e.g. steep slopes)

As stated by the Ministry of Environment and Natural Resources (SEMARNAT), the lands where the project activities are implemented fall in the category of degraded<sup>1</sup> (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 overgrazing).

- Technological barriers
  - Lack of access to necessary materials, for example planting materials.
  - Lack of infrastructure for implementation of the technology.
  - Local communities usually do not have access to quality seed sources and lack the necessary skills to

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<sup>1</sup> SEMARNAT Oficial Document. See: [https://www.semarnat.gob.mx/archivosanteriores/informacionambiental/Documents/pdf/cap\\_3\\_suelos.pdf](https://www.semarnat.gob.mx/archivosanteriores/informacionambiental/Documents/pdf/cap_3_suelos.pdf).

produce high quality seedlings and to perform successful tree planting especially under drought climatic conditions. In addition, they lack the knowledge and experience to prevent planted trees from fire, and attack by pest and disease.

Continuing with the baseline scenario in the PD, the elimination of the land use scenarios section states that:

#### Alternative 1

It is not prevented by any barrier. It is the current land use, and the one that has been practiced for more than 100 years.

#### Alternative 2

Forest plantation is not a common practice in the region. In fact, this production system in terms of local tradition is not well known. Therefore, knowledge and technology for its implementation is starting to be developed and diffused in the region. There is a noticeable difference between the return periods considered by landowners -who are used to expect a yearly income from their production-, while forestry projects have a period of 10 or more years for return on the investment. In addition, landowners in the region generally lack the capacity and equipment for conducting forestry activities. This alternative is also prevented by remoteness of land area, which imposes high transportation cost for wood products. Additionally, barriers related to uncertainties to eventualities like windstorms or risk to erosion due to the characteristics of the terrain, and degradation, eliminate this alternative as baseline scenario.

#### Alternative 3

As was described before this alternative was discarded due to the fact that is not profitable; additionally, the business core of Proteak UNO S.A.B. de C.V. is not related with this alternative. Therefore, this could not be a possible scenario.

#### Alternative 4

This alternative is not applicable to the project activity. For the Mexican government it is not mandatory to have forestation activities, it only promotes the forestation activities.

This barrier analysis leads to the conclusion that the most plausible scenario will be the continuation of pre-project activity in the absence of the proposed project activity and the new areas mentioned here.

Following the analysis of baseline scenario in the PD and the conclusion of the common practice analysis, these areas will also be in line with the characteristics of the validated areas and are not a common practice:

In conclusion, there are different characteristics that make each project presented in this PD Section, different from Fresh Breeze project. In some cases, there is some plantation whose main objective is not a forestry activity because the species used has other benefits. In the companies that have the commercial activity as the main activity there is a significant variation between the species, each species needs to be considered a particular case. The variation between the harvest age, thinning, rotation, and maintenance in each project, demonstrate that each project is completely different.

Forestry use in this project activities is therefore the best plausible scenario also following what its mentioned in each Programa de Manejo by the SEMARNAT, at the beginning of the document before the content list Section (Contenido):

*"In accordance with article 87 of the General Law for Sustainable Forestry Development, and its correlative articles of the regulations of the same law, I am allowed to give written notice of the establishment of a commercial forestry plantation on livestock lands, with secondary herbaceous and shrubby vegetation, according to the statements of article 85 of the same law."*

Additionally, each Programa de Manejo file states in the Section Objetivo de la Plantación the specific objectives of the plantation. These objectives refer to the implementation of a sustainable forestry project.

The incentives of the VCU's obtained due to the registration of the project as a VCS project activity, will help to alleviate the operation process of the project activity. This means that the VCU's incentives can avoid the barriers that the project has.

- "VCS AFOLU Non-Permanence Risk Tool" Version 3.2

Section 3.1 indicates the risks indicated for each criteria and in compliance with this tool. The Risk Tool Excel file shows the calculations as well that are required.

The New Project Activity Instance meet the eligibility criteria of the original Project Description for this Project Activity as demonstrated below:

- i) Meet the applicability conditions set out in the methodology:
  - a. The land subject to the project activity does not fall in wetland category. In the Programa de Manejo file in the Sections Características físicas y biológicas del ecosistema forestal (Tipos de Vegetación and Edafología), Características físicas y biológicas de las superficies a plantar (Suelos and Vegetación Existente), and in Planos de Superficie, they specify the compliance to this criteria.  
  
In addition, the plantations present four classification of soils, Regosols, Cambisols, Gleysol, and Rendzine. Regarding Regosols and Cambisols the tool classifies these soils as High Activity Clay (HAC); in the case of the Gleysol and Rendzine they are considered as land where the clay percentage is 24 and 29%, respectively<sup>2</sup>, 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.
  - b. Soil disturbance attributable to the afforestation and reforestation (A/R) clean development mechanism (CDM) project activity does not cover more than 10 per cent of area in each of the following types of land, when these lands are included within the project boundary:
    - (i) Land containing organic soils.
    - (ii) Land which, in the baseline, is subjected to land-use and management practices.

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<sup>2</sup> 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>

- c. This New Project Activity Instance also complies with the applicability conditions of the tools contained within the methodology and applied by the project activity.
- ii) 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 is carried out in order to promote a sustainable and correct growth of each individual. The activities followed are consolidated into two main processes: Preparation of the terrain and Maintenance.

*Annex 3 shows the activities that are determined and applied to each plantation.*

- iii) Applies the parameters, technologies, and inputs in the same manner as specified in the project description and in the statement explained in point ii).
- iv) Are subject to the baseline scenario for the specified project activity and geographic area.
  - a. The New Project Activity Instance meets the CDM consolidated methodology AR-ACM0003: "Afforestation and reforestation of lands except wetlands" v1.0.0. baseline definition: *"This methodology allows afforestation and reforestation of any land that does not fall into the category of wetland. Where the land in its baseline land-use has soil organic carbon (SOC) content that is expected to be higher than that under the land-use of "forestry", the methodology restricts the extent of soil disturbance in the project to be no more than 10 per cent"*.
  - b. The New Project Activity Instance form part of the geographic region and is considered to be in the same specificities dictated for the other plantations.
- v) 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:
    - 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.

Moreover, the new Project activity (each new area included; see NEW AREAS folder for specific information on Programa de Manejo and ownership related documentation for each plantation or the ZIP file Programas de Manejo for the complete validated areas and new areas) follows the Eligibility Criteria by:

- All new instances shall lie within Mexico (specifically in the states of Tabasco, Chiapas and Nayarit).
  - Compliance is shown in the Sections Resumen Ejecutivo, Planos de Superficie, Características físicas y biológicas del ecosistema forestal, and Características físicas y biológicas de las superficies a plantar in the Programa de Manejo file.
- Project activity shall be on degraded lands.
  - Project activity is established on degraded lands following the Sections Tipos de Vegetación and Vegetación Existente in Sections of Características físicas y biológicas del ecosistema forestal and Características físicas y biológicas de las superficies a plantar in the Programa de Manejo file. This land was also established as a degraded region by the SEMARNAT in Mexico.

In these Sections, it is stated that all the areas where the plantations are developed, were zones of deforestation and environmentally degraded terrains (Criteria 10.9 and 6.10 of FSC), and were maintained without any primary vegetation, and that the plantations are exclusively established on areas classified as grasslands and secondary bush vegetation. In addition, areas with primary forest, riparian vegetation, and high slope were not touched.

In Section Suelos of Programa de Manejo 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.

- Project activity shall not be on organic and/or drained soils.
  - The project activity site does not include organic or drained soils as established in the Sections Características físicas y biológicas del ecosistema forestal (Edafología), Características físicas y biológicas de

las superficies a plantar (Suelos), and in Planos de Superficie of the Programa de Manejo file.

- Project area shall not be a wetland.
  - The land subject to the project activity does not fall in wetland category. In the Programa de Manejo file in the Sections Características físicas y biológicas del ecosistema forestal (Tipos de Vegetación and Edafología), Características físicas y biológicas de las superficies a plantar (Suelos and Vegetación Existente), and in Planos de Superficie, they specify the compliance to this criteria.

In addition, the plantations present four classification of soils, Regosols, Cambisols, Gleysol, and Rendzine. Regarding Regosols and Cambisols the tool classifies these soils as High Activity Clay (HAC); in the case of the Gleysol and Rendzine they are considered as land where the clay percentage is 24 and 29%, respectively<sup>3</sup>, 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.

- The new plantation shall have the same characteristics of the project activities.
  - The land selected for plantation of *Tectona grandis*, commonly called "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.

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<sup>3</sup> 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>

In summary, Teak is a species that has the best growth of tropical wood, also it is the most likely to play in planting, this due to its resistance to fire, pests. Likewise, Proteak UNO S.A.B. 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 years.

Proteak gave evidence that demonstrates the continuity of the project activity due to the compromise that the project obtains with the FSC Certificate. The project activity already has renewed the first accreditation of the FSC certificate, this event demonstrates the continuity of the project activity.

The general activities that Proteak UNO S.A.B. de C.V. carries out in order to execute the afforestation project are the followings:

- Selection of the land and management procedures.
- Site preparation, production, and preparation of the plant.
- Establishment and maintenance of the plantation.
- Thinning program.

The project activity is in line with the eligibility conditions:

- Activities that convert native ecosystems to generate GHG credits are not eligible under VCS program. As demonstrated with the photos of each of the plantations in Planos de Superficie in the Programa de Manejo file, 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.
  - Activities that drain native ecosystems or degrade hydrological functions to generate GHG credits are not eligible under the VCS Program. The same evidence shows that the land has not had any hydrological function, therefore the land of the project activities was not drained.
- A non-permanence risk buffer assessment.
    - Section 3.1 indicates the risks indicated for each criteria and in compliance with this tool. The Risk Tool Excel file shows the calculations as well that are required.

- Leakage shall be assessed for each new project area.
  - All the plantations are grassland; therefore, these emissions are not considered in the project activity, this assumption is supported with the photo of each plantation in the Programa de Manejo in the Section of Planos de Superficie.

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:

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 no production of a commodity or something that can be involved with the leakage condition. This is stated in the Sections Tipos de Vegetación and Vegetación Existente, and in Planos de superficie of the Programa de Manejo file.

In these Sections, it is presented that all the areas where the plantations are developed, were zones of deforestation (Criteria 10.9 and 6.10 of FSC) and were maintained without any primary vegetation, and that the plantations are exclusively established on areas classified as grasslands and secondary bush vegetation. In addition, areas with primary forest, riparian vegetation, and high slope were not touched.

2) Activity-shifting leakage can result from, inter alia, the shifting of grazing animals, shifting of households or communities, shifting of aquacultural 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. This is stated in the Sections Tipos de Vegetación and Vegetación Existente in the Programa de Manejo file.

Furthermore, the Section Tipos de Vegetación of Programa de Manejo mentions that all areas where the plantations are developed, were zones of deforestation (Criteria 10.9 and 6.10 of FSC) and were maintained without any primary vegetation, and that the plantations are exclusively established on areas classified as grasslands and secondary bush vegetation. In addition, areas with primary forest, riparian vegetation, and high slope were not touched. They clarify that

some secondary vegetation has grown as a consequence of the abandonment of the land.

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. Taking the previous statement mentioned in the Programa de Manejo and being supported by Proteak's field team, the area that had cattle (Tacotalpa-See Annex 5) was bought and integrated to the project after their previous owner sold or moved the livestock. Following what it is established on the tool "Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity" that:

Leakage emission attributable to the displacement of grazing activities under the following conditions is considered insignificant and hence accounted as zero:

- Animals are displaced to existing grazing land and the total number of animals in the receiving grazing land (displaced and existing) does not exceed the carrying capacity of the grazing land.
- Animals are displaced to forested lands, and no clearance of trees, or decrease in crown cover of trees and shrubs, occurs due to the displaced animals.

In summary, these abandoned areas were used for the implementation of the project but in the case where there were cattle on the land, the movement was not done due to this implementation but to other purposes (selling or movement to available and already used livestock land that can sustain this activity) thus, the leakage is accounted as zero.

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.

- Proteak UNO S.A.B. de C.V. shall have the right of use for each new project area.
  - Compliance shown in the New Areas folder, in which registry papers and documentation related to right of use is shared. In addition, information related to ownership is presented at the beginning of each Programa de Manejo file (letter form the Secretaria de Medio Ambiente y Recursos Naturales) and in the Section Descripción de los aspectos socioeconómicos del área donde se establecerá la plantación, on the document.
- Shall be managed according to the same sustainability principles as described in this PD.
  - The project activity follows the sustainability principles as stated in the Section Objetivos de la plantación in the Programa de Manejo file.

These changes have directly affected the calculation of the Emission removals; therefore, this calculation must be updated based on current plantings. The variations are due to certain adjustments of the place that did not allow to carry out the plantation completely. In other cases, the weather conditions have affected the area, which have decided to accelerate or stop the planting process (for example, Piedra Santa and some other plantation areas). For the case of Tacotalpa, it was included in this period because before, it did not comply with the viability, the plantation was still too small. Additionally, it must be clarified that the company was in the process of understanding how the carbon market worked. They first included those validated plantations and later, decided to extend the project when internal and external conditions improved.

Regarding the requirements of the standard, the project's additionality is not affected as presented in this section:

- a) 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.
- b) The change of the area affects the emission removals and those changes have been applied to ER calculation.

In conclusion, these inclusions do not affect the applicability conditions or additionality. The project activity contemplates these areas for the calculation of the ER.

Given these additional areas, it must be clarified that an estimated Long-Term Average GHG has also been updated according to the monitored data and the estimated calculations presented for this verification event.

*Annex 4 presents the specifications for each criteria in each of these areas.*

## 4 DATA AND PARAMETERS

### 4.1 Data and Parameters Available at Validation

<b>Data / Parameter</b>	$D_j$
<b>Data unit</b>	t d.m. m <sup>-3</sup>
<b>Description</b>	Density (overbark) of tree stem for tree species j
<b>Source of data</b>	<p>The value is estimated by the following formula:</p> $D_j = D_{\text{wood},j} * (1 - \%Bark_{\text{volume}}) + D_{\text{bark},j} * \%Bark_{\text{volume}}$ <p>Where:</p> <p><math>D_j</math> = Density (overbark) of tree species j; t d.m. m<sup>-3</sup></p> <p><math>D_{\text{wood},j}</math> = Basic wood density of tree species j; t d.m. m<sup>-3</sup></p> <p>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</p> <p><math>\%Bark_{\text{volume}}</math> = Volume of tree trunk that is made of bark; %.</p> <p>Default value of 15% is used unless Transparent and verifiable information can Be provided to justify a different value.</p> <p><math>D_{\text{bark},j}</math> = Density of bark of species j; t d.m. m<sup>-3</sup></p> <p>Default value of 0.4 is used unless transparent and verifiable information can be provided to justify a different value</p>
<b>Value applied</b>	0.485 t.d.m/m <sup>3</sup>
<b>Justification of choice of</b>	This Data/Parameter is used in Equation (1) of the Methodological

<b>data or description of measurement methods and procedures applied</b>	tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"
<b>Purpose of Data</b>	Calculation of baseline emissions
<b>Comments</b>	n/a

<b>Data / Parameter</b>	$BEF_{2,j}$
<b>Data unit</b>	Dimensionless
<b>Description</b>	Biomass expansion factor for conversion of stem biomass to above-ground biomass for tree species or group species j
<b>Source of data</b>	IPCC default values (Table 3A.1.10 of IPCC GPG-LULUCF 2003)
<b>Value applied:</b>	1.3
<b>Justification of choice of data or description of measurement methods and procedures applied</b>	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.
<b>Purpose of the data</b>	Calculation of project removals
<b>Comments</b>	-

<b>Data / Parameter</b>	$R_j$
<b>Data unit</b>	Dimensionless
<b>Description</b>	Root-shoot ratio for species or group of species j
<b>Source of data</b>	The value of $R_j$ is calculated as $R_j = \exp[-1.085+0.9256*\ln(A)]/A$ , 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.
<b>Value applied:</b>	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 the data	Calculation of project removals
Comments	-

Data / Parameter	SOC <sub>REF,i</sub>
Data unit	t C ha <sup>-1</sup>
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>i</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 <sup>4</sup> . 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 <sup>7</sup> , 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 the data	Calculation of project removals

<sup>4</sup> INEGI. Instituto Nacional de Estadística y Geografía. Principales Tipos de Suelo. Available at: <http://mapserver.inegi.gob.mx/geografia/espanol/datosgeogra/fisigeo/suelos.cfm>

Comments	-
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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 the data	Calculation of project removals
Comments	The value is considered with a low use of manure.

Data / Parameter	$f_{MG,i}$
Data unit	Dimensionless
Description	Relative stock change factor for baseline management regime in stratum <i>i</i> of the areas of land; dimensionless
Source of data	<p>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"</p> <p>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.</p> <p>In this case is used the report of SEMARNAT (National Environmental Agency) that demonstrates the soil degradation of</p>

	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:	0.70
Justification of choice of data or description of measurement methods and procedures applied	-
Purpose of the data	Calculation of project removals

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 the data	Calculation of project removals
Comments	-

Data / Parameter	Volume table or equation
Data unit	m <sup>3</sup>
Description	Volume table or volume equation that predicts stem volume on the basis of one or more measurements of the tree.
Source of data	Publication of University of Bangkok

Value applied:	NA
Justification of choice of data or description of measurement methods and procedures applied	<p>The equations are the following and depend on the Diameter and the High of the tree.</p> <p>For Stem biomass (<math>W_s</math>) : <math>\text{Log } W_s = 0.9797 \log (D^2H) - 1.6902</math>;  <math>r^2 = 0.9930</math></p> <p>For Branch biomass (<math>W_B</math>) : <math>\text{Log } W_B = 1.0605 \log (D^2H) - 2.6326</math>;  <math>r^2 = 0.9567</math></p> <p>For Leaf biomass (<math>W_L</math>) : <math>\text{Log } W_L = 0.7088 \log (D^2H) - 1.7383</math>;  <math>r^2 = 0.8523</math></p> <p>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.</p>
Purpose of the data	Calculation of project removals
Comments	-

## 4.2 Data and Parameters Monitored

Data / Parameter	Ap,i
Data unit	Ha
Description	Area of sample p 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	During the monitoring period 7,311 plots during the monitoring period.
Value monitored:	4,200 ha measured every year.
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:	34,349 trees have been measured per year.
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	The equation was obtained using a regression; the set of data was measured in the year 2013.

Description of measurement methods and procedures to be applied	<p>The PP determines the equation using field measurements, over 3000 data are used to obtain the equation. The value of the correlation coefficient meets the requirements of the standard.</p> <p>The Equation to obtain the H is:  <math>H = -0.0077 * DBH^2 + 0.8971 * DBH + 0.2663</math></p> <p>Where:  H: Height (meters)  DBH: Diameter Breast Height (cm)</p>
Frequency of monitoring/recording	Prior the verification process.
Value monitored:	Variables depend on the value of DBH.
Monitoring equipment	<p>Hypsometer was used during the field measurements to obtain the data.</p> <p>Excel spreadsheet was used to obtain the quadratic regression.</p>
QA/QC procedures to be applied	<p>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.</p> <p>Make control measurements using all involved equipment (human error should be minimized at minimum with well training and cross-checked control measurement activities).</p>
Purpose of the data	Calculation of project emissions
Calculation method	NA
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:	23 December 2014-31 December 2019 Total of 5.02 years.
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A
Purpose of the data	Calculation of project emissions removals
Calculation method	NA
Comments	-
Data / Parameter	Volume table or equation
Data unit	m <sup>3</sup>
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	<p>The equations are the following and depend on the Diameter and the High of the tree.</p> <p>For Stem biomass (WS) :</p> $\text{Log WS} = 0.9797 \log (\text{D2H}) - 1.6902;$ $r^2 = 0.9930$ <p>For Branch biomass (WB) :</p> $\text{Log WB} = 1.0605 \log (\text{D2H}) - 2.6326;$ $r^2 = 0.9567$ <p>For Leaf biomass (WL) :</p> $\text{Log WL} = 0.7088 \log (\text{D2H}) - 1.7383;$ $r^2 = 0.8523$

	<p>According to the tool "Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities"</p> <p>For ex post estimation of aboveground tree biomass an allometric equations is valid if:</p> <p>The equation was derived from a data set of at least 30 sample trees, and the value of coefficient of determination (R<sup>2</sup>) obtained was not less than 0.85.</p>
Frequency of monitoring/recording	Before every verification event.
Value applied:	N/A
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 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.

### 4.3 Monitoring Plan

The aim of the Monitoring Plan is to record and monitor 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 stage 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.

Monitoring events were conducted in the period between the months of December 2016/December 2019.

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.

#### **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. Geographic coordinates are established, recorded, and archived. A Geographic Information System will be implemented with the following basic layers:

Permanent sampling plots will be used for sampling over time to measure and monitor changes in carbon stocks of above and below ground biomass. The location of

samples within the plot has been decided randomly to avoid any bias. The project boundary is supervised by monitoring parcels using GPS. Any changes in project boundary is accounted for in all calculations of actual net GHG removals by sinks. The monitoring methodology uses permanent sample plots to monitor carbon stock changes in above- and below-ground biomass pools. To reach the targeted precision level of about  $\pm 10\%$  of the mean at the 90% confidence level in a cost-effective manner, the number of plots needed in each stratum has been determined following the equation 1 and 4r of the Methodological tool "Calculation of the number of sample plots for measurements within A/R CDM project activities" version 02.1.0.

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

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<sup>-1</sup>)

$E$  = 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<sup>-1</sup>), i.e. in the units used for i

The number of sample plots calculated is 289, 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  $n = 289$ . Nevertheless, the commitment of Proteak is to improve the error, therefore, the number of plots used in this monitoring period is:

The monitoring process is done in accordance with several internal procedures and internal technical instructions part of the Quality Management System implemented in the company.

As a comparison of the requirements of the methodology and the highest effort of the PP to have an excellent monitoring process, they have an internal politic to make two types of measuring:

- Intensive measuring: For those plantations that have their first monitoring (3 years of age), the measuring program establishes that the measuring rate will be 1 plot per ha.
- Less intensive measuring: For those plantations that have their second monitoring and have at least 5 years of age, the measuring program establishes that the rate of measuring will be 1 plot per 5 ha.

The comparison of the Plots is showing in the next table. The Strata 9 plantations have not enough data, due to the age of most of the plantations is less than 3 years. However, the individual analysis demonstrates that the quantities of plots measured for each plantation of the Strata 9 is enough to validate the results.

# 5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

## 5.1 Baseline Emissions

It has been selected as the baseline scenario, it is assumed, in agreement with IPCC Good Practice Guidance for Land Use, Land Use Change and Forestry (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:

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

- $\Delta C_{ACTUAL,t}$  = Actual net GHG removals by sinks, in year t; tCO<sub>2</sub>-e
- $\Delta C_{P,t}$  = Change in the carbon stocks in project, occurring in the selected carbon pools, in year t; tCO<sub>2</sub>-e
- $GHG_{E,t}$  = Increase in non-CO<sub>2</sub> 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<sub>2</sub>-e

$$GHG_E = \sum_{t=1}^t GHG_{E,t}$$

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<sub>2</sub>-e
- $GHG_{E,t}$  = Increase in non- CO<sub>2</sub> 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<sub>2</sub> GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity"; tCO<sub>2</sub>-e t= 1,2,3,...t\* years elapsed since the start of the A/R CDM project activity

Proteak UNO S.A.B. DE C.V. 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.

$$GHG_E=0$$

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

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

- $\Delta C_{P,t}$  : Change in the carbon stocks in project, occurring in the selected carbon pools, in year t; tCO<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-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"; tCO<sub>2</sub>-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; tCO<sub>2</sub>-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 "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<sub>2</sub>-e Estimation of GHG emissions within the project boundary

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

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

- $\Delta C_{BSL,t}$ : Baseline net GHG removals by sinks in year t; t CO<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-e

Estimation of tree biomass using the BEF technique

In this technique 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 ratios. This is estimated as:

$$B_{TREE,j,p,l,t} = V_{TREE} \times D_j \times BEF_{2,j} \times (1 + R_j)$$

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;  $m^3$
- $D_j$ : Density (overbark) of tree species  $j$ ; t.d.m.  $m^{-3}$
- $BEF_{2,j}$ : 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 11. The equations are the following: activity"; tCO<sub>2</sub>-e

For Stem biomass (WS):  $\text{Log WS} = 0.9797 \log (D2H) - 1.6902$

$r^2 = 0.9930$

For Branch biomass (WB):  $\text{Log WB} = 1.0605 \log (D2H) - 2.6326$

$r^2 = 0.9567$

For Leaf biomass (WL):  $\text{Log WL} = 0.7088 \log (D2H) - 1.7383$

$r^2 = 0.8523$

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 validation team. Data used for estimating tree biomass are shown in the next table.

Parameter	Symbol	Value	Source
Basic density for teak tree (tonnes dry matter/m <sup>3</sup> )	D <sub>wood,j</sub>	0.5	Obtained from the IPCC. Table 3A.19 ( <i>Tectona Grandis</i> ).
Density of teak calculated with the formula of the tool (tonnes dry matter/m <sup>3</sup> )	D <sub>j</sub>	0.485	Using the formula of the Methodological tool: Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R project activities
Biomass expansion factor (dimensionless)	BEF <sub>2,j</sub>	1.3	Values from Table 3A.1.10 of IPCC GPG LULUCF 2003. As the weather of the activity is tropical and is considered a forest type of pines.
Carbon Fraction (dimensionless)		0.47	According to the tools, this is the conservative value obtained from the IPCC.
Root-to-shoot ratio (dimensionless)		0.31	Obtained from the IPCC table 3A.1.8 of IPCC GPG LULUCF 2003. Used the lowest value as a conservative approach.

#### 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:

- the areas of land to 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 validation team 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<sup>5</sup>

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<sup>6</sup>, those lands can be considered as 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 applies. For the tropical wet and tropical moist climate region corresponding to the project activity, none of the three combinations included in Table 2 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.

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

<sup>5</sup> INEGI. Instituto Nacional de Estadística y Geografía. Principales Tipos de Suelo. Available at: <http://mapserver.inegi.gob.mx/geografia/espanol/datosgeogra/fisigeo/suelos.cfm>

<sup>6</sup> 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>

Management	$f_{MG}$	0.70	As was demonstrated land is considered a degraded land
Input		1	All grassland without input fertilizers is assigned the input value of 1.

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

$$dSOC_{t,i} = \frac{SOC_{REF,i} - (SOC_{INITIAL,i} - SOC_{LOSS,i})}{20 \text{ years}}$$

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
- $SOC_{INITIAL,i}$  = 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  $dSOC_{t,i}$  is 0.66 t C/ha/year, therefore this is the value of the increase of the soil organic carbon

### 5.3 Leakage

Leakage shall be estimated as follows:

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

Where:

- $LK_t$  = GHG emissions due to leakage, in year t; t CO<sub>2</sub>-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<sub>2</sub>-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 (tCO<sub>2</sub>-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)
- $\Delta Cd_t$  = Sum of annual changes in carbon stock in all selected carbon pools since the start of the project activity to the year of verification tver 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 CO<sub>2</sub> to carbon (tCO<sub>2</sub>-e tC-1)

All the plantations are grassland; therefore, these emissions are not considered in the project activity, this assumption is supported with the photo of each plantation

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:

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.

## 5.4 Net GHG Emission Reductions and Removals

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

$$\Delta C_{AR-CDM,t} = \Delta C_{ACTUAL,t} - \Delta C_{BSL,t} - LK_t$$

Where:

- $\Delta C_{AR-CDM,t}$ : Net anthropogenic GHG removals by sinks, in year t; tCO<sub>2</sub>-e
- $\Delta C_{ACTUAL,t}$ : Actual net GHG removals by sinks, in year t; tCO<sub>2</sub>-e
- $\Delta C_{BSL,t}$ : Baseline net GHG removals by sinks, in year t; tCO<sub>2</sub>-e
- $LK_t$ : GHG emissions due to leakage, in year t; tCO<sub>2</sub>-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<sub>2</sub>-e GHG<sub>E,t</sub>
- $GHG_{E,t}$ : Increase in non-CO<sub>2</sub> 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<sub>2</sub> GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity", t CO<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-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<sub>2</sub>-e
- $\Delta C_{SOC,AL,t}$  : Change in carbon stock in SOC in project, in year t, in areas of land meeting the applicability conditions of the tool " 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<sub>2</sub>-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%.

**FRESH BREEZE AFFORESTATION PROJECT**

					<i>Buffer</i>	<i>14%</i>
Year	Baseline emissions or removals (tCO <sub>2</sub> e)	Project emissions or removals (tCO <sub>2</sub> e)	Leakage emissions (tCO <sub>2</sub> e)	GHG emission reductions or removals (tCO <sub>2</sub> e)	AFOLU pooled buffer account	Net GHG emission reductions or removals (tCO <sub>2</sub> e) After Risk Tool
2015	0	11,668	0	11,668	1,634	10,035
2016	0	142,776	0	142,776	19,989	122,787
2017	0	189,469	0	189,469	26,526	162,943
2018	0	191,926	0	191,926	26,870	165,056
2019	0	213,011	0	213,011	29,822	183,189
<b>Total</b>	<b>0</b>	<b>748,850</b>	<b>0</b>	<b>748,850</b>	<b>104,839</b>	<b>644,011</b>

<b>Net VCU's to be issued</b>	<b>644,011</b>
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