# VALIDATION & VERIFICATION REPORT AFFORESTATION AND RESTORATION OF DEGRADED FORESTS IN EASTERN PARAGUAY OR FORESTAL AZUL CARBON PROJECT

Document Prepared by TÜV NORD CERT GmbH

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| **Project Title** | Afforestation and restoration of degraded forests in Eastern Paraguay or Forestal Azul Carbon Project |
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| **Report Title** | Validation & Verification Report Afforestation and restoration of degraded forests in Eastern Paraguay or Forestal Azul Carbon Project |
| **Client** | Forestal Azul S.A. |

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## Summary:

**Description of validation and project:** The projects activity consists of afforestation of agricultural land, previously used for mechanized soy and implanted pastures, to establish quality timber plantations in pure plantations (1,158 ha) and in a silvopastoral system (147 ha) with a rotation period of rd. 12 years. **A target production area of rd. 1,307 ha of forest plantations was planned to be established until 2020 (first instance), of which 993 ha have been stablished between 2018 and 2019.**

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

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

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

**Method and criteria:** Validation is conducted using TÜV NORD CERT GmbH procedures in line with the requirements specified in the latest version of the VCS Validation and Verification Manual and applying auditing techniques. The validation team assessed the proposed project activity's compliance under the VCS Version 4.1, the selected methodology and the project description. The project activity is found to be appropriately eligible under Project Scope 14 "Agriculture, Forestry, and other Land Use (AFOLU). The validation criteria followed the guidance

documents provided by VCS including the following: VCS Standard Version 4.2, VCS Program Guide Version 4.0, AFOLU Non-Permanence Risk Tool Version 4.1, Methodology AR-ACM0003 version 2.0.0 – "Afforestation and reforestation of lands except wetlands".

**Number of findings:** In the course of the validation **6 Corrective Action Requests (CARs), 9 Clarification Request** (CL) were raised and successfully closed. The assessment is included in the report.

**Uncertainties:** There are no restrictions of uncertainty.

**Validation conclusion Forestal Azul S.A.** has commissioned the TÜV NORD JI/CDM Certification Program to carry out the Verified Carbon Standard (VCS) validation and verification of the project: Forestal Azul Carbon Project (PL 2469) with regard to the relevant requirements of VCS standard Version 4.2. TÜV NORD confirms all validation activities including objectives, scope and criteria, level of assurance, monitoring and project documentation adhere to VCS Version 4.1. TÜV NORD concludes that the Forestal Azul Carbon Project joint project description & monitoring Report (PDMR) version 2 of 19-January-2022 meets the requirements of VCS and all associated updated. The GHG assertion provided by Forestal Azul S.A and validated by TÜV NORD will result in the expected GHG emission reductions or removal of **288,047 tCO2e on 1,307** ha over the 20 years crediting period.

**Verification conclusion:** The project consists of 1,305.5 hectares of agricultural land afforested. The planting started in 2018 and was not yet finished at the time of the audit. In the years 2018 and 2019 **992,5 ha** of plantation have been established, those areas have reached a measurable size at the time of the inventory and thus the trees planted in 2020 have not been measured.

Thereof **only the area of 992,5 ha planted until 2019 is** reflected in the verification.

**Verification Period: from 01/06/2018 to 31/12/2020 (including** both days)

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

1. all operations of the project are implemented and installed as planned and described in the validated project design document;
2. the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AR-ACM0003 – version 2.0.0;
3. the installed equipment essential for measuring parameters required for calculating emission reductions are properly maintained;
4. the monitoring system is in place and functional. The project has generated GHG emission reductions.

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

| Year (vintage) | Baseline emissions or removals (tCO2e) | Project emissions or removals (tCO2e) | Leakage emissions (tCO2e) | Net GHG emission reductions or removals (tCO2e) |
|---|---|---|---|---|
| 2018 | 872.00 | 6,729.00 | 0.00 | 5,856.00 |
| 2019 | 1,486.00 | 12,504.00 | 0.00 | 11,018.00 |
| 2020 | 0.00 | 13,196.00 | 0.00 | 13,196.00 |
| **Total** | **2,358.00** | **32,428.00** | **0.00** | **30,070.00** |

# CONTENTS

# 1 INTRODUCTION

## 1.1 Objective

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

- the requirements of the VCS Version 4.2;
- the requirements of the approved methodology;
- relevant rules, including the host country legislation;

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

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

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

## 1.2 Scope and Criteria

The validation scope is given as a thorough independent and objective assessment of the project design including especially the correct application of the methodology, the project's baseline study, additionality justification, stakeholder involvement, environmental impacts and monitoring plan, which are included in the joined project design document & monitoring report/PDMR/ and other relevant supporting documents, to ensure that the proposed VCS project activity meets all relevant and applicable VCS Version 4.2 criteria.

The information included in the joined project design document & monitoring report/PDMR/ and the supporting documents were reviewed and assessed against the requirements as set out by the VCS Version 4.1.

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

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

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

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

## 1.3 Level of Assurance

Indicate the level of assurance of the validation. The validation has been planned and organized to achieve a

☒ reasonable level of assurance

☐ limited level of assurance

## 1.4 Summary Description of the Project

The projects activity consists of afforestation of agricultural land, previously used for mechanized soy and implanted pastures, to establish quality timber plantations in pure plantations (1,158 ha) and in a silvopastoral system (147 ha) with a rotation period of rd. 12 years. A target production area of rd. 1,307 ha of forest plantations was planned to be established until 2020 (first instance), of which 992,5 ha have been established between 2018 and 2019. The project is a grouped project as the company may expand in case potential expansion areas can be identified within the region.

Besides the above-mentioned area there are further 485 ha of degraded natural forest in which enrichment plantings have been conducted. Forestal Azul S.A. is aiming to integrate these areas (new instance) into the project once an applicable VCS methodology is developed and approved (See FAR 01).

The project is further certified against the FSC sustainable forest management standard/FSC/.

The 1st monitoring period is from June 1st 2018 to December 31st 2020. In this period a net carbon emission reduction of 30,922 tCO2-equivalent has been determined, which results in 25,559 VCUs deducting the 15 % buffer/XLSep/.

Related Findings see CL01

# 2 VALIDATION AND VERIFICATION PROCESS

## 2.1 Method and Criteria

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

- Contract review
- Appointment of team members and technical reviewers
- Publication of the VCS project description & monitoring report/PDMR/

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

The sequence of the validation is given in the table 2.1 below:

Table 2.1: Validation sequence

| Topic | Time |
|---|---|
| Assignment of validation | 2020-04-20 |
| On-site visit | 2021-09-06 – 2021-09-10 |
| Draft reporting finalised | 2022-03-31 |
| Final reporting finalised | 2022-04-20 |
| Technical review on final reporting finalised | 2022-05-11 |
| Final corrections | 2022-05-11 |
| Final corrections after PRR by VERRA | 2022-12-15 |
| Final corrections after PRR by VERRA | 2023-03-06 |

**Sampling Plan:** The total project area was visited and PSPs (permanent sample plots) of the client's monitoring system were re-measured. Out of the 120 a sample of 14 plots (12%) was randomly selected, choosing those plots that allow to get an full overview of the total project area while traveling to the PSPs.

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

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

Table 2-2 Validation team member

| No. | Role | Type of resource | Last name | First name | Affiliation (e.g. name of central or other office of DOE or outsourced entity) | Involvement in | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Desk/Doc review | On-site inspection | Interview(s) | Validation/Verification findings |
| 1. | Team Leader (also verifier) | EI | Opitz | Martin | External Expert | ☒ | ☐ | ☒ | ☒ |
| 2. | Team member | EI | Piz-zurno | Cecilia | External Expert | ☒ | ☒ | ☒ | ☒ |

Table 2-3 Technical reviewer and approver

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

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

## 2.2 Document Review

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

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

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

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

## 2.3 Interviews

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

Representatives of the PP, consultant and other parties including the operational staff of the plantation and community members affected by the project activity have been interviewed.

The selection of interviewees was both structured and random. For example, technical interviewees were purposively selected to verify the information provided to PDD. Field staff, employees, and affected neighbors and residents, if any, were randomly selected without informing the PP in advance to obtain unbiased and authentic information and to verify the information provided.

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

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

| Interviewed Persons / Entities | Interview topics |
|---|---|
| Project proponent representatives<br><br>Project consultant<br><br>Field staff<br><br>Former owner of the fincas and their representative | - Chronological description of the project activity with documents of key steps of the implementation.<br>- Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project<br>- Monitoring and measurement equipment and system.<br>- Financial aspects<br>- Crediting period<br>- Project activity starting date<br>- Ownership<br>- Baseline study assumptions<br>- Additionality<br>- Monitoring<br>- Analysis of local stakeholder consultation<br>- Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting<br>- Editorial issues of the VCS PDMR<br>- Environmental aspects<br>- Social-economic aspects |

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

## 2.4 Site Inspections

As most essential part of the validation/verification exercise, it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria. Furthermore, the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. The main tasks covered during the site visit include, but are not limited to:

- The total project area was visited including enhanced natural forest remnants and 15 PSPs remeasured; the PSPs were chosen in a way that allowed an overview over the total project area
- the on-site assessment included an investigation of whether all relevant equipment is installed and works as anticipated.

- the operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures as well es risk of accidents/health and safety
- Former owners of the fincas and their legal representatives (lawyer) were interviewed via phone in order to check the risks of displacement/livelihoods/access to ecosystem services.
- information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.
- the monitoring processes, routines and documentations were audited to check their proper application.
- the monitoring data were checked completely.
- the data aggregation trails were checked via spot sample down to the level of the meter recordings.

An onsite visit has been carried out on the date as indicated in table 2.1 above. Ms. Cecilia Pizzurno led the visit on site and was constantly in the process of exchanging information with the team leader Martin Opitz and debriefing in the afternoon.

## 2.5 Resolution of Findings

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

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.
A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.
A detailed list of the CARs CLs and FAR raised and discussed in the course of this validation is included in **Appendix 4** of this report.

Number of findings: In the course of the validation **6 Corrective Action Requests (CARs), 9 Clarification Request (CL)** were raised and successfully closed. The assessment is included in the report.

### 2.5.1 Forward Action Requests

FAR 1 has been opened that must be followed up during the 2nd Verification. See section 3.4.1 for details.

# 3 VALIDATION FINDINGS

## 3.1 Project Details

Project type, technologies and measures implemented, and eligibility of the project:
The Project belongs to the project type Afforestation Reforestation Revegetation (ARR), the sectoral scope is 14 AFOLU.
The proposed project consists of the afforestation of agricultural land, previously used for mechanized soy and implanted pastures, to establish quality timber plantations. Different species from the genera of eucalypts are selected, among them: Eucalyptus grandis, E. urophylla, and Corymbia variegata, as well as the hybrids E. urograndis (urophylla x grandis) and E. grancam (grandis x camaldulensis).
The main reason to select the non-native species indicated above is part of the necessity of the country to guarantee a sustainable timber source. Currently, the country consumes between 12-15 million m3 per year, mostly for energetic purposes source unsustainably from remaining natural forest. Therefore, sustainable sources for timber production are needed to reduce the pressure on natural forests.

For the enrichment of the degraded natural forests a mix of exotic species will be introduced such as Melia azedarach, Hovenia edulis, Toona ciliata, Gmelina arborea, Paulownia spp.

Eligibility:
No conversion of primary natural forest took place on the project area within the last 10 years. As the project area has been agricultural land it is ensured, that no conversion of natural forests took place/shp/. All sites of the plantation where the PP identified minor clearings of degraded secondary forests less than 10 years ago have been classified as not eligible for the project activity, even though it could be demonstrated that the project owner was not involved in those latest clearings, as they were done for conversion into agriculture/pasture lands by the landowner some years before project start. The removal of these sites is a conservative measure to the project GHG accounting. All remaining lands included in the project activity fulfil the eligibility criteria of the standard, as could be demonstrated by verifying the shape files and satellite images of respective years 10 years before planting.

Project design, including eligibility criteria for grouped projects:
The silvicultural as well as the slivopastoral regime of the plantation is aiming to produce quality timber. The spacing is 5 x 2 m respectively 5 x 3 m with a rotation of 10 – 13 years respectively 5 x 2 x 9 x 2 m with a rotation of 12 years.
For the enrichment planting in those parts of the natural forest remnants that are classified as not being able to rehabilitate rows with fast-growing exotic tree species of the mahogany family are introduced. This will require the clearing of rows of about 20 to 30 m width, in which implanted trees will be managed just like a pure plantation. Natural regeneration in both the cleared rows and the natural remaining forests in between the rows will be fostered and managed. Forestal Azul S.A. has received an Exception Letter/EL/ form INFONA officially providing allowance for the enrichment planting in the natural forest remnants.

Eligibility criteria for new instances are clearly defined and complete in the project design document and monitoring plan/PDMR/.

Ownership:

The PP Forestal Apepu purchased the contiguous properties "Rodeo Guazu" in 2018. Property rights are registered through public deeds/PR/. Thus the PP is the rightful owner of the property rights and of carbon credits to be generated in this project.

Project start date:
Starting date of the proposed ARR project activity: 01-06-2018. Corresponding records/StD/ were checked, and the appearance of the plantations found, leaves no doubt as to the age of the trees.

Project crediting period:
The project lifetime is 20 years from 01.06.2018 until 31.05.2038. The area will be replanted immediately after harvest/PR4/, further the financial analysis shows that forestry is competitive vis-à-vis the most common land uses in the region, meaning cattle or agriculture/PR3/. The expectation is a developing market and rising prices for timber in the future. It is therefore to be expected that with the establishment of the plantation, a permanent land use towards forestry was initiated, which will continue well beyond the project period.

Project location:
The first instance of the grouped project Azul is located in the district of San Pedro/sph/. For further expansion, other properties in the vicinity will be considered. Since these areas have not yet been identified, the outer project boundary is the entire Department of San Pedro.

Conditions prior to project initiation:
The plantations are established on agricultural land that was previously used for mechanized soy and implanted pastures. The land uses on the different FMUs encountered previous to project initiation correspond to the most common land uses found in the region.

Project compliance with applicable laws, statutes and other regulatory frameworks:
The project is fully compliance with all applicable laws, which are:

- Superordinate framework Forestry Law 422/73

Approval and/or registration by the applicable regulatory agencies as follows:

- The National Forest Institute (INFONA), created by Law N° 3464/08, ➔ permits for the transport and commercialization of timber, approves forest management plans, and registers plantations.
- The Environmental Ministry (MADES) ➔ Implementation and Monitoring of environmental regulations; Environmental Impact Assessment Law (Law N° 294/93), Environmental licensing process (Decree N° 453/2013).

Environmental regulations such as:

- Maintenance of 25 % of original forest cover (Law N° 422/1973 and Decree N° 18,831/1986).
- Protection of Buffer zones of streams and rivers ( Law N° 4,241/10 and Decree N° 9,824/12).
- Forest conversion ban since 2004 (Law N° 2,524/2004 and subsequently N° 3,139/ 2006, N° 3,663/2008, N° 5,045/2013, and N° 6,256/2018).
- Penalization of crimes against the environmental (Law N° 716/96).

Labor and social regulations, governed by Law N° 17,071/1943, N° 1,860/1950, N° 375/1956 and N° 213/93

The compliance with mentioned laws is confirmed via the annual FSC Audits/FSC/, a standard that requires the continuous consultation of stakeholders and the compliance with country-specific and ILO labour laws/principles to a high degree and also conducts such consultations itself on an annual basis in the course of the surveillance audits.
This was further confirmed via interviews held with field staff, technical staff, person responsible for social affairs, and inhabitants of neighbouring villages.

Participation under other GHG programs:
After consulting other carbon project registries/GS/CDM/ICAP/ACR/AOR/CAR/, it can be confirmed that this project activity is not listed or has not been rejected by any other GHG program.
This was further sustained by the local audit team member that is a nationally known carbon expert in Paraguay and in charge of the two Verra registered REDD projects ID 1403 and ID 953. There is also no active ETS in the host country/ICAP/.

Other forms of credit:
Not applicable. See Section 3.2

Sustainable development contributions:
The project contributes to the national forest sector by providing proof of concept and implementation of models aligned to political goals, such as the national plan of reforestation (Decree N° 10,147 of 2012), governmental efforts to formalize the biomass sector (Decree N° 4056/2015), and the contribution to the National Determined Contributions of the country, where afforestation is highlighted as a prominent measure.

Additional information relevant to the project:
Not applicable.

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

Related Findings see CL1, CL2

## 3.2 Participation under Other GHG Programs

According to the Paraguayan national NDC/DC/, forests are not inventoried and included in the national GHG balance to this point in time. Thus, a potential risk of double counting can be neglected for the crediting period of the first verification of the first project instance.

## 3.3 Safeguards

### 3.3.1 No Net Harm

The proposed project is an afforestation project of agricultural land, previously used for mechanized soy and implanted pastures. The PP has a legal land title/ PR/. The plantation activity is subject to an annual inspection by an independent third party/FSC/, a standard that highly controls the use of pesticides and, for so-called

Highly Hazerdous Pesticides, has designed an elaborate application procedure that includes consultation of stakeholders and FPIC principles.

No negative environmental or socio-economic impacts due to the project activity were detected and are to be expected.
On the contrary, in terms of ecological aspects/LE/, the most important benefits are:

- Introduction and provision of proof of concept for a viable natural forest restoration model.
- Contribution to improved water household
- Carbon sequestration
- Valid environmental licenses

In terms of socio-economic aspects, the most important benefits are:
Increase of job opportunities compared to industrialized agriculture for which local entrepreneurs are hired/USP/.

- Strict adherence to international accepted health and safety requirements/MA/
- Compared to previous land uses, the plantations provide benefits to local people, by providing local jobs. Between 2018-2020, Forestal Azul maintained between 30 and 80 employees, most of the coming from the neighboring community Paso Tuna
- The project is planning to introduce Eucalyptus plantations on smallholder land

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

Related Findings see CL 04

### 3.3.2 Local Stakeholder Consultation

The plantation is surrounded by other medium and large properties dedicated to cattle and agriculture. The closest communities are Paso Tuna (7km) and Costa Pucú (12km) which are seen as most vulnerable communities.

Stakeholder consultations take/took place during the implementation of planation activities/CC/ as well as prior to listing the VCS-PD in the VCS registry. A Community Laison Officer was employed to coordinate the exchange with the communities/INF/. Any grievance expressed is recorded and addressed, currently there are none/MS/. To the contrary, the project is well received due to significant job creation respectively stimulation of establishment of local service providers/INF/. The consideration of grievances and their adequate processing is also controlled during the annual FSC Audits/FSC/.

TÜV NORD JI/CDM CP confirms that the PP takes adequately due account of all, and any input received. The above mentioned was further confirmed by interviewing the field staff, technical staff, plantation managers, community members. All interviewed individuals have been well informed about the project as well as the VCS processes as well as the side visit.

Related Findings see CL 05

### 3.3.3 Environmental Impact

For the property an Environmental Impact Assessments and Analysis of HCVs/LBB/ respectively Assessments of the Biodiversity Baseline have been conducted and integrated in the corresponding Management Plans/MP/. Main negative impacts in comparison to the pre-project landuse (agricultural land) are to be found in:

- Invasive behaviour of exotic species
- Soil erosion
- Pesticides and inputs
- Forst fires

All potential impacts are adequately dealt with, corresponding SOPs/SOP/ are established and the impacts will be constantly monitored/MS,EnIm/.

The consideration of environmental impacts and their adequate processing is also controlled during the annual FSC Audits/FSC/.

TÜV NORD JI/CDM CP confirms that the PP takes adequately due account of all, and any potential negative environmental impact. The above mentioned was further confirmed by interviewing the field staff, technical staff, plantation managers, community members.

Related findings see CL6

### 3.3.4 Public Comments

This project was open for public comment from 12/07/2021 to 11/08/2021. No comments have been received.

Related Findings see CAR1

### 3.3.5 AFOLU-Specific Safeguards

The PP conducted a thorough baseline assessment of the adjacent communities/USP/. Stakeholder engagement includes environmental and forest authorities, NGOs and experts, local community members and associations, contractors, and workers/MS/. The management team keeps a complete list of stakeholders per FMU which are also contacted during the FSC Audits/FSC/.

The main impact to local stakeholders is positive as the project is providing more job opportunities than the pre-project land use : (agricultural land).
Besides this positive effect some potentially negative impacts are to be found in:

- Risks of accidents / Health and safety
- Dust and noise / accidents on the road

All potential impacts are adequately dealt with, corresponding SOPs/SOP/ are established and the impacts are constantly monitored/MS/.

The consideration of socio-economic impacts for local stakeholders and contractors and their adequate processing is also controlled during the annual FSC Audits/FSC/.

Further it must be mentioned, that an ongoing grievance process is established and publicly available as part of the Management Plan/MP/. Grievances received are processed and documented/MS1/. During the field visit "buzones des sugerencia y quejas" (Grievance letterboxes) could be observed.

Furthermore, it remains to be noted, that the implementing company and its management have a Code of Conduct/CC/ to avoid discrimination of any kind. The management has a 25% share of women in leading positions/UW/. The low percentage of women in field work is mainly due to the physical requirements and is comparable to other projects. At the present time, no signs of discrimination can be identified.

TÜV NORD JI/CDM CP confirms that the PP takes adequately due account of all, and any potential negative socio-economic impact. The above mentioned was further confirmed by interviewing the field staff, technical staff, plantation managers, community members.

Related Findings see CAR 02

## 3.4 Application of Methodology

### 3.4.1 Title and Reference

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

- "Combined tool to identify the baseline scenario and demonstrate additionality", version 7
- "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities, version 4.2
- "Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity", version 4.0
- "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities", version 01.1.0
- "Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities", version 01.1.0

| Description of CAR |
| --- |
| Forestal Azul S.A. is following a "first of its kind" approach approved by the national authorities by conducting enrichment plantings on 485 ha of degraded natural forest. Azul S.A. is aiming to integrate these areas (new instance) into the project once an applicable VCS methodology is developed and approved.<br><br>At the time of the next verification a clarification has to be provided if and how those instances can be included and under which VERRA approved methodology. |

### 3.4.2 Applicability

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

| Applicability condition | Tuv Nord assessment and justification |
| --- | --- |
| The land subject to the project activity does not fall in wetland category | The plantations are established on former agricultural lands, this could be observed during the onsite visit/INF/.<br>This was confirmed by interviewing the field staff, technical staff, plantation managers, landowners, community leaders. |
| Soil disturbance attributable to the project activity does not cover more than 10 per cent of area in each of the following types of land, when these lands are included within the project boundary:<br>i. Land containing organic soils;<br>ii. Land which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 1 and 2 to the methodology. | During the site visit it could be observed, that the project activity did not result in any kind of soil disturbances above 10% of the area.<br>Ploughing occurred along the planting lines only. The in the project description mentioned ploughing width of maximum 50 cm and up to 50 cm depth appears realistic. For the maximum spacing of 5 X 2 (on 15% of the project area) this lead to an ploughed area of 1,000m²/ha (A line of trees every 5 m results in 20 lines/ha ➔ 20 lines * 0,5 m of width * 100 m of length/ha = 1,000 m2 of soil disturbance/ha)<br>This was confirmed by interviewing the field staff, technical staff, plantation managers, landowners, community leaders. |

| Methodological tools | Tuv Nord assessment and justification |
| --- | --- |

| | |
|---|---|
| Combined tool to identify the baseline scenario and demonstrate additionality | The forestation does not lead to violation of any applicable law, for details see the assessment and explanation provided in sections 3.3.4 and 3.3.5 of this report. |
| Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (version 04.2); | There are no applicability conditions contained in this tool. |
| Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities | There are no applicability conditions contained in this tool. |
| Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities<br><br>a. The areas of land (i) do neither fall into the wetland category…<br>b. The A/R CDM project acidity meets the following conditions:<br>i. Litter remains on site and is not removed in the A/R CDM project activity and<br>ii. Soil disturbance attributable to the A/R CDM project activity, if ans, is:<br>• Limited to soil disturbance for site preparation before planting and such disturbance is not repeated in less than twenty years. | The plantations are established on former agricultural lands, ploughing occurred along the planting lines only, litter was not removed from the plots.<br>This could be observed during the onsite visit/INF/ and was confirmed by interviewing the field staff, technical staff, plantation managers, landowners, community leaders. |
| Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity", version 4.0 | N.a.<br>Fire is not applied for e.g. land preparation. |
| Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity | N.a.<br>Displacement of pre-project activities does not occur. |
| Demonstrating appropriateness of volume equations for estimation of aboveground tree biomass in A/R CDM project activities | There are no applicability conditions contained in this tool. |

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

### 3.4.3 Project Boundary

The proposed project the afforestation of 1,305.5 ha of agricultural land, previously used for mechanized soy and implanted pastures as first instance in the Departments of San Pedro. The Project Boundary is defined as the departments of San Pedro. The political limits of this department is considered the outer project boundary.

The PP has provided the details of the project area in the form of shape files/shp/. The documents were thoroughly assessed by the audit team checking the eligibility assessment of the project area by using Google earth imagery and other GIS files.

In accordance with the methodology applied and its corresponding tools, the following GHG sources, sinks and reservoirs for the project and baseline scenarios:

| Source | | Gas | Included? | Explanation/Justification |
|---|---|---|---|---|
| Baseline | Above-ground and Below-ground Biomass | CO2 | Yes | Major carbon pool subjected to the project. |
| | Dead wood and litter | CO2 | Yes | Conservatively included using default values provided in the tool AR-TOOL12 |
| | Soil Carbon | CO2 | Yes | Carbon stock in these pools may increase due to implementation of the project activity |
| Project | Above-ground and Belwoground Biomass | CO2 | Yes | Major carbon pool subjected to the project |
| | Dead wood and litter | CO2 | No | Conservatively not accounted for |
| | Soil Carbon | CO2 | Yes | Carbon stock in these pools may increase due to implementation of the project activity |

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

### 3.4.4 Baseline Scenario

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

STEP 0: Preliminary screening based on the starting date of the A/R project activity:
Forestal Azul started its afforestation project in April 2018 with the first planting activities in June 2018. This is before the registration date and after 31 December 1999.
The above could be confirmed by the physical appearance of the forest and corresponding records proving the planting start/StD/.

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

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

1. Continuation of the pre-project land use which mechanized soy/beef production **(Alternative 1)**
2. Forestation of the land within the project boundary without being registered as the A/R CDM project activity **(Alternative 2)**

The mentioned alternative land use scenarios were checked during the site visit and confirmed by interviewing stakeholders and the landowners and literature provided/AD1/. The continuation of the pre-project is by far the most likely land use scenario for the project area. The establishment of plantations with the aim to produce quality wood is, although being a brown-field investment at first glance, rather to be seen as green-field investment, as the location is outside of the high potential areas (less than 100 km from ports or industries)/Ad3,Ad4/ and as it is facing risk/Ad2/ .
No other possible alternative scenarios have been identified and appear reasonable for the project area.

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

All mentioned land use alternatives comply with all mandatory regulations and laws as described above in section 3.1.
To underline the particular legal compliance of the project activity, the PP has provided additional information on weak legal enforcement/LE/ in regard to forest laws in Paraguay.

STEP 2: Barrier analysis:

Sub-step 2a. List of barriers:

The PP considers the following barriers:

- Investment barriers
- Barriers related to timber and wood market

- Barriers due to local ecological conditions
- Barriers related to local tradition

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

Alternative 1 "Continuation of the pre-project land use which is cattle and soy/maize production" as current land use is not prevented by any of the listed barriers

Alternative 2 "Forestation of the land within the project boundary without being registered as the A/R CDM project activity" is prevent by a series of risks related to be before mentioned barriers.

Investment barriers and barriers related to the timber and wood market
As discussed in the PD/MR, one of the biggest hurdles for investments into the forest sector are to be found in lack access to appropriate funding for forestry. The PP provides several evidence proofing, that the national incentives to foster plantation business has not succeeded which has resulted in Paraguay not having a highly developed forestry sector compared to its neighbouring countries/Ad2, Ad5/ and in this context is lacking a stable market for quality timber/Ad7/.

Barriers due to local ecological conditions
Due to the change of rain patterns, longer dry periods are becoming more likely which leads to a higher risk for the health of the trees e.g. through pests and plagues. This could be observed during the onsite visit/Inf/.

Technological barriers
For Paraguay only limited national data exists for the prediction on growth and yield. This increases the level of uncertainty which led at present to a higher quantity of low-quality timber during the first thinnings than originally expected. This could be confirmed during the field visit via interviews held with technical staff and plantation managers.

Barriers related to local tradition
Due to the before mentioned underdeveloped forestry sector and subsequently the lack of a stable timber marked there is a lack of processing facilities/Ad7/ of high-quality timber as well as skilled and professionalized labour forces. This could be confirmed via the local Team Member.
Further it needs to be mentioned, that the implementation of the forest restoration model which is planned to be included as future instances as soon as applicable methodology will be approved by VERRA can be clearly graded as "first of its kind" and approved by the authorities of the host country/EL/.

Based on the information provided, information obtained during interviews, the team members' knowledge of the country, and cross-checking with publicly available studies, TÜV NORD JI/CDM CP confirms that the barriers listed are plausible and credible.

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

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

STEP 4: Common practice analyses:

The PD/MR listed official numbers/AD3/ and in-official numbers (that are confirmed by the local Team Member) regarding the extent of forest plantations within the country. As outlined the overwhelming majority of those plantations are planted for biomass only. Only one forest plantation operator is known to produce quality timber/AD8/ and is located within the "high potential area" in regard to forest investments (Zone A/ less than 100 km from ports or industries/AD4/). Within the project region, there are only Forestal San Pedro S.A., establishing silvipastoral systems on basis of the "forestry surface rights" (DRSF = Derecho Real de Superficie Forestal) and Forestal Apepu, a company established in 2019, have been introducing quality timber plantations in the project region. Both face the same/similar barriers and both have been validated under VCS.
Finally, the only AR project registered under the CDM in Paraguay is mentioned, but it is a small-scale project/AD10/.

In view of the above TÜV NORD JI/CDM CP confirms that i) the project activity would not be a common practice in the geographical region of the assessment and ii) is not the baseline scenario. Thus, TÜV NORD JI/CDM CP confirms, that the proposed project activity is additional in compliance with the CDM Tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities".
TÜV NORD JI/CDM CP confirms that all data, rationales, assumptions, justifications, and documentation provided by the project participants to support demonstration of additionality are credible and reliable, which was checked and verified at the time of validation. TÜV NORD JI/CDM CP considers the reasoning for the proposed project additionality demonstration is credible and reasonable i.e. the proposed project has the ability to reduce anthropogenic emissions of greenhouse gases by sources below those that would have occurred in the absence of the registered VCS A/R project activity.

Related Findings see CL7, CL8

### 3.4.5 Additionality

Please refer to section 3.4.4 above.

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

### 3.4.6 Quantification of GHG Emission Reductions and Removals

Quantification of baseline emissions:
Baseline net GHG removals by sinks are calculated using equation 1 of the applied methodology AR-ACM0003 as well as the several equations from the corresponding tools AR-Tool 14 (Version 04.2) and AR-Tool 12 (Version 03.1).

Two baseline strata are distinguished based on the land use and canopy cover: agricultural and pasture. The estimation of the baseline stocks and stock change of trees and shrubs was assessed applying the "proportionate crown cover" approach as outlined in section 6.3 of the AR-Tool 14. This was done using "Open Foris Collect" for the survey design and "Collect Earth" for the assessment to do a simple canopy cover ticking ("tree", "shrub", "grass" and "others"). To do so 30 randomly selected clusters of 0.5 ha size were selected which were than be assessed on basis of a survey using a 5x5 sub-point grid ticking. In order to achieve a reliable result, aerial imagery form 12.06.2016 & 15.07.2017 (project start in 2018) were applied.

The above described was demonstrated by the PP and thoroughly assessed by the Audit Team and found to comply with good practice.

Based on the results the **Baseline shrub carbon stock change** is accounted as 0 t C/ha in compliance with sections 8.3 and 11 of the AR-Tool 14 since the shrub coverage is <5%. The pre-existing tree C stock of the **Baseline tree carbon stock for agriculture and pasture** is calculated using the formulas 20 and 21 from the AR-Tool14 applying the default parameters provide by the tool (carbon fraction, root-to-shoot ratio), results of the above-described assessment (%-canopy cover) and scientific data/BE/ (Mean above-ground biomass in forest in the region or country).
**Baseline tree and shrub carbon stock change** are accounted as zero in compliance with section 5 of the AR-Tool 14 as all three conditions are met which could be confirmed during the onsite visit/Inf/. **Baseline dead wood and litter carbon stock** is calculated using the formulas 9 respectively 15 from the AR-Tool12 applying the default parameters according to mean project precipitation.

Quantification of project emissions:
Ex-ante actual net GHG removals by sinks are calculated using Equation 2 and 3 of the applied methodology AR-ACM0003.
**Change in carbon stock in tree biomass** (and its long-term average) is estimated based on assumed mean annual increments (MAI) in compliance of section 8.2 of the tools AR-Tool 14 (Version 04.2). Input parameters are taken from internal assumptions (MAI), and scientific data/PE1,PE2,PE3/ (root-to-shoot ration, density), default parameters provide by the tool (carbon fraction) and from the IPCC2003 (biomass expansion factor).
Changes in carbon stock from shrubs, dead wood and litter is not accounted for.
The LTA has been calculated on bases of the Equation as set out in 3.2.25 of the applied standard.
**Change in carbon stock in Soil Organic Carbon** is calculated applying the "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities". The "rate of change in SOC stock" is derived applying the IPCC Spreadsheet.

Quantification of leakage:
Leakage emissions are accounted as zero in compliance with section 6 of the AR-Tool 15 as no displacement of animals took place This is since extensive livestock farming is predominant and does not suffer any effective

restriction in the silvipastoral system implemented. This could be confirmed in the course of the field visit via interviews held with technical staff, plantation managers and community members/IM/.

TÜV NORD JI/CDM CP assessed the calculations of baseline emissions and project emissions and the expected net GHG reductions and removals by sinks. Corresponding calculations were carried out based on calculation spreadsheets/XLSep/ provided. Correctness of calculations can be confirmed as they were replicated by the audit team using the information provided. The values and estimates presented in the PDMR are considered reasonable based on the documentation reviewed, further references and the result of the interviews during the onsite visit.
Based on the information reviewed TÜV NORD JI/CDM CP can confirm that the sources used are correctly quoted and interpreted in the PDMR. All assumptions and data indicated in the PDMR, and all relevant sources were checked and confirmed.
In essence TÜV NORD JI/CDM CP can confirm that the methodology was correctly applied following the requirements. All values in the PDMR are considered reasonable in the context of the proposed VCS project activity. Data sources are quoted correctly. Hence, the calculation of baseline stocks and removals, leakage and the expected net anthropogenic GHG removals by sinks are considered correct.

Related Findings see CL9, CAR3

### 3.4.7 Methodology Deviations

Not applicable.

### 3.4.8 Monitoring Plan

The monitoring plan presented in the PD/MR complies with the requirement of the applied methodology. The audit team checked all parameters presented in the monitoring plan against the requirements of the methodology and corresponding tools.
Relevant parameters available at validation are listed in the PD. All relevant parameters that need to be monitored are listed in the PD as required by the methodology and corresponding tools.
The monitoring procedures as defined in the PD/MR were reviewed by the audit team on paper and via interviews with technical staff as well as via observation during the re-measurements conducted
This information allows TÜV NORD JI/CDM CP to confirm that the proposed monitoring plan is feasible for the presented project activity. TÜV NORD JI/CDM CP concludes that the PP is able to implement the monitoring plan to report ex-post GHG net anthropogenic removals, which can also be verified.

Related Findings see CAR4

## 3.5 Non-Permanence Risk Analysis

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

- 

Internal Risks:

| Project Management |
|---|

| Risk Factor | DOE Assessment of justification and quality of documentation | Risk Rating |
|---|---|---|
| a) | The trees planted in this project comprise non-native species, mainly Eucalyptus spp. Eucalypts have a track record in the region since around 50 years/AD2/, and they haven't presented limitations in terms of affecting the water balance or invasion into native ecosystems. | 0 is accepted |
| b) | The FMU belongs to Forestal Azul. The management team is interested in protecting all stocks as it is part of the company's asset.<br><br>This was confirmed via interviews held with field staff, technical staff, responsibles for social affairs, and land owners | 0 is accepted |
| c) | The company UNIQUE Wood/PR1/, with over 20 years of experience managing forests and over 9 years of experience with plantations, was contracted to manage the silvicultural aspects of the plantations of Forestal Azul S.A. Two forest engineers with over 5 years of experience together with two forest technicians manage the plantations and work together to ensure the high quality of silvicultural system applied.<br><br>UNIQUE/PR2/ (Unique Wood Paraguay S.A. supported by Unique forest investment GmbH) has been contracted for managing forest plantations. The management team has significant experience with managing forest plantations according to IFC and FSC standards. UNIQUE has over 20 years of experience managing natural forests and over 9 years of experience with plantations in Paraguay, both under FSC certification. | 0 is accepted |
| d) | UNIQUE Wood Paraguay is a Paraguayan company established in the country in 2001/PR1/. The forest engineer Jorge Galeano is located permanently in the FMU, supported by a team in Fernando de la Mora (Gran Asunción), located 250 km away. | 0 is accepted |
| e) | Forestal Azul contracted UNIQUE forestry and land use GmbH to develop this AFOLU, project,account for carbon from trees and other GHG sources, report and participate in validation and verification under respective VCS methodology and standard requirements. UNIQUE forestry and land use GmbH has a long track record in developing AFOLU Projects/PR2/ | -2 is accepted |
| f) | The project has adaptive management/MP/ (operations plan, monitoring plan, roll out plan, feedback plan, supervisors, and internal control system) in place. The project is subject to regular reporting to investors, and its progress is supervised in quarterly Board Meetings by the investors, who monitor the project according to IFC Performance Standards. In addition, the project is FSC certified and subject to annual auditing by external third parties/FSC/. | -2 is accepted |
| Total Project Management (PM) [as applicable, (a + b + c + d + e + f)]<br><br>Total may be less than zero. | | -4 is accepted |

| Financial Viability |
|---|

| Risk Factor | DOE Assessment of justification and quality of documentation | Risk Rating |
|---|---|---|
| a) | The audit team checked the project cash flow/PR3/ and can confirm the breakeven point is 9 years from the current risk assessment. The quality of the documentation is deemed to be sufficient to evaluate the risk correctly. | 2 is accepted |
| b) | a) therefore not applicable | |
| c) | a) therefore not applicable | |
| d) | a) therefore not applicable | |
| e) | a) therefore not applicable | |
| f) | h) therefore not applicable | |
| g) | h) therefore not applicable | |
| h) | The verification team checked the project cash flow/ PR3/ and can confirm the project has secured 40% to less than 80% of the funding needed to cover the total cash out required before the project breaks even. The quality of the documentation is deemed to be sufficient to evaluate the risk correctly. | 0 is accepted |
| i) | The arbaro fund and its partners/PR4/ are guaranteeing the funding of the project. The partner organisation is supervised by the German financial sector regulator BaFin/PR5/ | -2 is accepted |
| Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)]<br>Total may not be less than zero. | | 0 is accepted |

| Opportunity Cost | | |
|---|---|---|
| **Risk Factor** | **DOE Assessment of justification and quality of documentation** | **Risk Rating** |
| a) | d) therefore not applicable | |
| b) | d) therefore not applicable | |
| c) | d) therefore not applicable | |
| d) | Agriculture leads to an IRR of 89% and an investment needed of 1 million USD at a payback period of 2 years. Meanwhile forestry offers an IRR of 23% and an investment needed of 4 million USD at a payback period of 9 years. Having a look at a period of 30 years, the income to be generated from forestry is 45% higher than from agriculture<br>While the initial investment for forestry is much larger than for agriculture, and the payback period is much longer, the average annual income over a period of 30 years is 45 % higher.<br>This leads to a 5% higher NPV over the project period of 30 years /PR3,AD2,AD5/. | 0 is accepted |

| | | |
|---|---|---|
| | This could be confirmed in the course of the field visit via interviews held with technical staff, plantation manager and landowners/IM/. | |
| e) | d) therefore not applicable | |
| f) | d) therefore not applicable | |
| g) | Not applicable – no mitigation in place | |
| h) | Not applicable – no mitigation in place | |
| i) | Not applicable – no mitigation in place | |
| Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)]<br>Total may be less than 0. | | 0 is acceptable |

| Project Longevity | | |
|---|---|---|
| DOE Assessment of justification and quality of documentation | | |
| a) | The PP assumes a project lifetime of 30 years although the investor investing in Forestal Azul plans to exit after at least 15 years. The assumption is based on the outcome summarized in the sec. opportunity costs as during the first rotation period (costs related to establishment of the plantation) the profitability of the plantation is expected for the subsequent rotations/AD5/. | 15 is acceptable |
| b) | Not applicable – no legal requirement in place | |
| Total Project Longevity (PL)<br>May not be less than zero | | 15 is acceptable |

| Internal Risk Outcome | |
|---|---|
| Total Internal Risk (PM + FV + OC + PL)<br>Total may not be less than zero. | 11 |

External Risks:

| Land Tenure and Resource Access/Impacts | | |
|---|---|---|
| Risk Factor | DOE Assessment of justification and quality of documentation | Risk Rating |

| | | |
|---|---|---|
| a) | Forestal Azul is currently established in one FMUs purchased by the company, who is the legal owner of the land/PR/. | 0 is acceptable |
| b) | Not applicable | |
| c) | Not applicable | |
| d) | Not applicable | |
| e) | Not applicable | |
| f) | Not applicable | |
| g) | In Forestal Apepu, all informal land uses and rights are identified and have been addressed. These are minor and do not jeopardize the projects land use or the owners access to resources.<br>This could be confirmed in the course of the field visit via interviews held with technical staff, plantation manager and landowners/IM/. | -2 is accepted |
| Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)]<br>Total may not be less than zero. | | 0 is acceptable |

| Community Engagement | | |
|---|---|---|
| **Risk Factor** | **DOE Assessment of justification and quality of documentation** | **Risk Rating** |
| a) | Not applicable | 0 is acceptable |
| b) | Not applicable | 0 is acceptable |
| c) | Forestal Azul does not border directly with communities, the next is 7 km away and it does not depend on the project's resources as set out by the standard, the project is maintaining good relations, as almost all operational staff working for Azul come from neighboring communities.<br>The communities are well known and described/USP/.<br>The consideration of socio-economic impacts for local stakeholders and contractors and their adequate processing is also controlled during the annual FSC Audits/FSC/.<br>The above mentioned was further confirmed by interviewing the field staff, community members. | -5 is acceptable |
| Total Community Engagement (CE) [where applicable, (a + b + c)]<br>Total may be less than zero. | | -5 |

| Political Risk | | |
|---|---|---|
| **Risk Factor** | **DOE Assessment of justification and quality of documentation** | **Risk Rating** |
| a) | Not applicable | |
| b) | Based on the WGI data *http://info.worldbank.org/governance/wgi/index.asp*<br><br>of the most recent 5 years Paraguay has a governance score of -0,39. Respective calculations have been provided and crosschecks with the World Bank Institute Worldwide Governance Indicators have been done. The source is provided by the VCS Standard and thus adequate. The calculation is correct. | 4 is acceptable |
| c) | Not applicable | |
| d) | Not applicable | |
| e) | Not applicable | |
| f) | The country has an established Designated National Authority under the CDM and has at least one registered CDM Afforestation/Reforestation project/AD10/ | -2 is acceptable |
| Total Political (PC) [as applicable ((a, b, c, d or e) + f)]<br><br>Total may not be less than zero. | | 2 is acceptable |

| External Risk Outcome | |
|---|---|
| Total External Risk (LT + CE + PC)<br><br>Total may not be less than zero. | 0 is acceptable |

Natural Risk:

| Natural Risk: Fire<br>DOE Assessment of justification and quality of documentation | |
|---|---|
| Significance | Fire is a high risk in Eucalyptus plantations, which it might lead to the loss of several hectares and the complete carbon stock of them.<br><br>Rural communities often use fire to renew pastures, that spreads out and leads to forest fires during the dry period/PR6/.<br><br>The management team has extensive experience with fire prevention and control in other projects. Using mitigation measures such as firebreaks, training, and early warning during the dry season, fires can be successfully controlled. The total loss of a significant part of the asset by fire is considered very unlikely.<br><br>The above mentioned was further confirmed by interviewing the field staff, technical staff, plantation managers, community members/IM/. |

| | |
|---|---|
| | The fire risk significance is rated as 'minor' (5% to less than 25% loss of carbon stocks)."<br><br>A minor significance rating is adequate and acceptable. |
| Likelihood | Fires are a common problem in Paraguay and it is expected to happen less than every 10 years/RP6/. |
| Score (LS) | 5 is acceptable |
| Mitigation | The plantation area is always divided into compartments (smaller areas, 20-50 ha with similar characteristic, such as age and planted species), divided by roads or artificial firewalls which are established to minimize the risk of fire spread/shp/.<br><br>Annually before the dry season, trainings take place with the operative staff for fire prevention and firefighting. Further, the company cooperates with neighbors to ensure early warning and cooperation.<br><br>The above mentioned was further confirmed by interviewing the field staff, technical staff, plantation managers, community leaders/IM/ as well es in the course of the inspection of infrastructure and equipment/INF/.<br><br>The establishment of adequate mitigation measures regarding fire outbreaks is also controlled during the annual FSC Audits/FSC/.<br><br>It can be concluded that appropriate tools and equipment for fire prevention and firefighting have been established.<br><br>A mitigation rating of 0.25 is adequate and acceptable. |

| Natural Risk: Pest and Disease<br>DOE Assessment of justification and quality of documentation | |
|---|---|
| Significance | Eucalyptus sp. are vulnerable to pests and diseases such as the gall *wasp Lectocybe invasa*, the beetle *Costalimaita ferruginea*, and a fungal disease caused by the canker *Teratosphaeria zuluensis*, also known as *Coniothyrium zuluensis*.<br><br>These pests affect mostly the quality of the timber and sometimes, to a certain degree, tree development, however, to date a significant growth stagnation or loss has not been detected and is considered minor (5% to less than 25% loss of carbon stocks). In cases of significant pests and disease outbreaks, the management team reacts quickly and seeks control the infestation.<br><br>The above mentioned was further confirmed by interviewing the field staff, technical staff, plantation managers/IM/ as well as in the course of the inspection of the forest stands respectively the re-measurement of sample plots/Inf/.<br><br>A minor significance rating is adequate and acceptable. |
| Likelihood | For the same reason areal outbreaks of significant pests and diseases are assumed to be very unlikely (every 25 to less than 100 years). |
| Score (LS) | 5 is acceptable |

| | |
|---|---|
| Mitigation | Plantations are established with high density of trees and thinning is strong during the whole production cycle/MP/. This allows to select the most promising trees and reduce the risks of losing the expected biomass.<br><br>Clones that have shown to be particularly vulnerable to certain pests are not employed anymore.<br><br>Acute infestations are controlled chemically when such method is effective, respective management plans are in place/SOP/ .<br><br>The establishment of an adequate pest management is also controlled during the annual FSC Audits/FSC/.<br><br>A mitigation rating of 0.25 is adequate and acceptable. |

| **Natural Risk: Extreme Weather**<br>**DOE Assessment of justification and quality of documentation** | |
|---|---|
| Significance | In the region droughts and floods might occur in different moments of the year. Floods are unlikely to affect the plantations, as lower areas prone to flooding are excluded from the production area.<br><br>Droughts do affect the development of plantations, however mostly younger plantations during the first months of planting. Most plants that are affected by drought during the first months of planting still show an acceptable development after a few months. It can be concluded that the effect is unlikely to be very high.<br><br>Trees included in carbon verifications are at least one year old, thus it is less likely that they are significantly affected by extreme weather events.<br><br>The above mentioned was further confirmed by interviewing the field staff, technical staff, plantation managers/IM/ as well es in the course of the inspection of the forest stands respectively the re-measurement of sample plots/Inf/.<br><br>A minor significance rating is adequate and acceptable. |
| Likelihood | Droughts are expected relatively often, while floods are less likely to affect plantations (less than every 10 years). |
| Score (LS) | 5 is acceptable |
| Mitigation | Areas affected by flooding are not planted/shp/.<br><br>Clone selection is conducted carefully and adapted to the site. Clones with more resistance to extreme weather are introduced in the areas more likely to be affected.<br><br>Trees included in the carbon monitoring are always at least 1 year old, and according to the experiences in the region, extreme weather does not affect to older management units.<br><br>A mitigation rating of 0.5 is adequate and acceptable. |

| Natural Risk: Geological Risks<br>DOE Assessment of justification and quality of documentation | |
|---|---|
| Significance | Not applicable as geological risk such as earthquakes and volcanos do not exist in the region. |
| Likelihood | Not applicable |
| Score (LS) | 0 is acceptable |
| Mitigation | Not applicable |

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

| Score for each natural risk applicable to the project<br>(Determined by (LS × M) | |
|---|---|
| Fire (F) | 1.25 |
| Pest and Disease Outbreaks (PD) | 1.25 |
| Extreme Weather (W) | 1 |
| Geological Risk (G) | 0 |
| Other natural risk (ON) | 0 |
| Total Natural Risk (as applicable, F + PD + W + G + ON) | 3.5 |

Overall Risk Rating:

| Risk Category | Rating |
|---|---|
| Internal Risk | 11 |
| External Risk | 0 |
| Natural Risk | 3.5 |
| Overall Risk Rating (a + b + c) | 14,5 |

| | |
|---|---|
| Applied is a risk rate of | 15 |

In total the project faces minor risks and if certain risks are there, mitigation measures are in place. This is validation and 1st verification and the overall impression of the plantation and management is very good and professional/INF/. This impression is confirmed by the annual FSC-Audits/FSC/.
Thus, the audit team concludes that the applied risk score of 14% is adequate for the project activity.

Related Findings see CAR 5

# 4 VERIFICATION FINDINGS

## 4.1 Accuracy of GHG Emission Reduction and Removal Calculations

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

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

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

Geographical delimitation of project boundary:
Each Forest Stand in each FMU is delineated according to a described step-wise approach combining physical GPS tracking as well as the working out of Forest Stand Boundaries with GIS and satellite imagery. The result are shapefiles/shp/ that have been provided and assessed in depth in the field by the audit team.

Stratification and update of effective areas:
According to the monitoring plan, the forest stands are stratified according to the growth performance (MAI) expected depending on species planted and soil conditions, etc. This classification is re-evaluated on a yearly basis.
For the calculation of the ex-post GHG emission reductions achieved the original approach was abandoned because the trees have adjusted their growth performance with age, i.e. the stands show a high homogeneity, so that for the inventory of the present verification, the forest stand were stratified according to their planting year. The homogeneity is confirmed via the result of the estimation of the precision level reached. The overall uncertainty of the inventory/average carbon stock per PSP for the present verification is 18.9% at a 90 per cent confidence level.

Sampling design, plots selection and location:
For the monitoring of the volume standing Permanent Sample Plots (PSPs) were established. The PSPs consist of 20 planted trees (regardless of whether they survived or not) and are established randomly. According to internal procedures, the minimum density is 1 PSP every 10 ha, corresponding to a minimum sampling size of 0.2 % in terms of area/SOP/. Depending on the spacing of the forest stand two types of PSPs were designed with different sizes of 250m² and 200m². Each tree is numbered and thus re-measurable.
During the field out of the in total 120 PSPs 14 plots were remeasured, thus 12%.
Emissions due to changes in carbon stocks in deadwood, soil organic carbon are not monitored as they are estimated based on default values.

Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

The required data for the monitoring was available, and the parameters were monitored in accordance with the registered monitoring plan.

The data collection was conducted with a measuring tape (DBH; The diameter at breast height (1.3 m from the ground)) and a Vertex (Height of tree planted). The calibration of the Vertex could be confirmed during the field visit/INF/. A detailed description of the data generation, storing, processing and aggregating, collating and reporting is described in the MR and the corresponding SOP/SOP/. During the verification the data collection, processing, collating and reporting was demonstrated and discussed in depth via skype calls.

In the following table the assessment of the actively monitored parameters are assessed.

Assessment of ex-post determined parameters

| Parameter | Description | Value applied | Assessment |
|---|---|---|---|
| DBH | The diameter at breast height (1.3 m from the ground) | *See: XLSep_2021-02-08 FASA Carbon Inventory M1_* | DBH is measured with measuring tape.<br><br>15 PSPs were measured. Exactly the same measuring method was used for this. The audit team observed the measurements and found them to be in accordance with the monitoring plan<br><br>Values remeasured see:<br>2021-09-08 Planilla de remedición de parcelas - Forestal Azul (002) |
| H | Height of tree planted | *See: XLSep_2021-02-08 FASA Carbon Inventory M1_* | Tree height is measured with a Vertex.<br><br>15 PSPs were measured. Exactly the same measuring method was used for this. The audit team observed the measurements and found them to be in accordance with the monitoring plan<br><br>Values remeasured see:<br>2021-09-08 Planilla de remedición de parcelas - Forestal Azul (002) |
| FF | Form Factor for volume | 0.4 | Diameter and height were measured in 41 trees in different stem lengths to determine the tree volume according to sectional diameter method 12.b of the methodology AR Tool "Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities". The $R^2$ factor reached is 0.98 and thus above the minimum (0.85) required. The factor has been developed in accordance with the tool. |

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

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

Project emissions were quantified as described in section 3.4.6. / Quantification of project emissions, with one exception: Contrary to the above-mentioned use of MAI for the volume calculation of the above-ground biomass, the actual volume was determined using a project-specific form factor (basel area x tree height x form factor). This approach is good forest practice and therefore fully acceptable.

A project specific form factor for the volume calculation was derived applying the sectional diameter method from an assessment of 41 trees/FFS/ to determine the tree volume according to sectional diameter method 12.b of the methodology AR Tool Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities. The $R^2$ factor reached is 0.98 and thus above the minimum (0.85) required.

During 1st verification of the 1st instances total net project emissions removals of 30,070 tCO2 has been reached which is 13.26% of the LTA. Thus, the LTA has not been reached yet. The LTA was calculated on basis of ex-post inventory data.

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

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

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

## 4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

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

- GIS files/SHP/
- Calculation spreadsheets (including raw data)/XLSep/
- Observations during the field visit by the audit team/INF/

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

Related findings, see CL 12

# 5 VALIDATION AND VERIFICATION CONCLUSION

Forestal Azul S.A. has commissioned the TÜV NORD JI / CDM Certification Program to carry out the joined validation and verification of the first instance of the grouped project "Forestal Azul Carbon Project". The validation and verification was performed based on VCS Version 4.1 requirements as well as criteria given to provide for consistent project operations, monitoring and reporting.

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

The proposed VCS project activity consists of afforestation of agricultural land, previously used for mechanized soy and implanted pastures, to establish quality timber plantations with a rotation period of rd. 12 years. The approved methodology AR-ACM0003 " AR Large scale - Afforestation and reforestation of lands except wetlands" (version 2.0) is applied to quantify the GHG reductions and/or removals achieved in this project.

In the course of the validation 6 Corrective Action Requests (CARs), 9 Clarification Request (CL) and 1 Forward Action Request (FAR) were raised and successfully closed.

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

In detail TÜV NORD CERT GmbH confirms:

1. A reasonable level of assurance has been applied.
2. All data and information used for ex-ante calculation of emission reductions is of projected and/or hypothetical nature.
3. The project is in line with all relevant host country legislation incl. its GHG assertions, where applicable.
4. The project additionality is sufficiently justified in the joined project design document & monitoring report.
5. The monitoring plan is transparent and adequate.
6. The calculation of the project emission reductions and/or removals is carried out in a transparent and conservative manner, so that the calculated emission removals of 216,567 tCO2e are most likely to be achieved within the 20 years crediting period.
7. All operations of the project are implemented and installed as planned and described in the validated project description.
8. The monitoring plan is in accordance with the applied approved methodology i.e. AR-ACM0003 Version 2.0.
9. The long-term-average carbon stock is reached, thus no further VCUs can be issued.
10. The instruments essential for measuring parameters required for calculating removals is calibrated appropriately.
11. The monitoring system is in place and functional. The project has generated GHG removals.

Verification period: From 01/06/2018 to 31/12/2020 (including both days)

| Year | Baseline emissions or removals ($tCO_2e$) | Project emissions or removals ($tCO_2e$) | Leakage emissions ($tCO_2e$) | Net GHG emission reductions or removals ($tCO_2e$) | Buffer pool allocation | VCUs eligible for issuance |
|---|---|---|---|---|---|---|
| 2018 | 872.00 | 6,729.00 | 0.00 | 5,856.00 | 878.00 | 4,978.00 |
| 2019 | 1,486.00 | 12,504.00 | 0.00 | 11,018.00 | 1,653.00 | 9,365.00 |
| 2020 | 0.00 | 13,196.00 | 0.00 | 13,196.00 | 1,979.00 | 11,216.00 |
| **Total** | **2,358.00** | **32,428.00** | **0.00** | **30,070.00** | **4,510** | **25,559.00** |

The conclusions of this report show, that the project, as it was described in the project description, is in line with all criteria applicable for the validation against the VCS standard Version 4.1 without any qualifications or limitations.

Munich, 06–March- 2023

*M*artin Opitz

*TÜV NORD JI/CDM Certification Program Validation Team Leader*

Hanover, 06-March 2023

*Alexandra Nuske*

TÜV NORD JI/CDM Certification Program Final Approval

# APPENDIX 1: ABBREVIATIONS

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

| | |
|---|---|
| NDRC | National Development and Reform Commission |
| NPRA | Non-Permanence Risk Analysis |
| PD | Project Description |
| PP | Project Participant |
| PRA | Participatory Rural Appraisal |
| QC/QA | Quality control/Quality assurance |
| REDD | Reduced Emissions from Deforestation and Degradation |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VCS | Verified Carbon Standard |
| VCSA | Verified Carbon Standard Association |
| VCU | Verified Carbon Unit |
| VVB | Validation/Verification Body |

# APPENDIX 2: REFERENCES

| Reference | Document |
|---|---|
| /PDMR/ | "Afforestation and restoration of degraded forests in Eastern Paraguay" or Forestal Azul Carbon Project, Version 4,3, 01-03-2023 |
| /NPRR/ | "Afforestation and restoration of degraded forests in Eastern Paraguay" or Forestal Azul Carbon Project, Version 1.1, 14-12-2022 |
| /XLSea/ | Excel Spread Sheet; ex-ante calulations |
| /XLSep/ | Excel Spread Sheet; ex-post calulations |
| /shp/ | Shapefiles of the project boundary, baseline, PSPs<br>Satellite images (2017-2020) |
| /FSC/ | REPORTE DE AUDITORÍA, Forestal Azul S.A., Auditoria Principal, 31.07.2018, GFA Cert<br>REPORTE DE AUDITORÍA, Forestal Azul S.A., Auditoría de Vigilancia, 10.07.2019, GFA Cert<br>REPORTE DE AUDITORÍA, Forestal Azul S.A., Auditoría de Vigilancia, 10.08.2020, GFA Cert<br>REPORTE DE AUDITORÍA, Forestal Azul S.A., Auditoría de Vigilancia, 26.10.2021, GFA Cert |
| /PR/ | Purchase contracts and public deed:<br>1 Forestal Azul private limited company; No 10832811 dating 16.04.2018<br>2 Purchase "Rodeo Guazu" No 10832806 dating 16.04.2018; |
| /StD/ | Monitoreo y Almacén FEBRERO 2021 rev; Archive of all forest activities conducted. |

| Reference | Document |
|---|---|
| /USP/ | Umwelt- und Sozialprüfung Estancia Rodeo Guazú, Paraguay; Andrea Braun UNIQUE forestry and land use GmbH; 03.12.2017 |
| /LBB/ | Línea de Base de Biodiversidad para la Estancia Rodeo Guazú; Juana de Egea et al, 2018 |
| /MS/ | 2020 ES and Health and Safety compilation of monitoring results |
| /MS1/ | MS1_Anexo 9. Resultados de encuesta de Satisfacción laboral 2018-2019-2020 |
| /MP/ | Plan de Manejo – Resumen Público Vs4 2021 Estancia Rodeo Guazú/ Forestal Azul, Paraguay |
| /SOP/ | • Plan de Manejo Integrado de Plagas (MIP) & ERAS de productos químicos<br>• 2020-06-12 Procedimientos de SSO y emergencias_final<br>• Protocolo de inventario plantaciones<br>• Grupo UNIQUE Procedimiento de control de hormigas |
| /EnIm/ | • INFORME DE AUDITORIA AMBIENTAL Cumplimiento del Plan de Gestión Ambiental (PGA) Y AJUSTE DEL PROYECTO; PROPIETARIO: FORESTAL AZUL SA; CONSULTOR: Ing.For. Dalmacio Barboza AÑO 2020<br>• UNIVERSIDAD NACIONAL DE ASUNCIÓN Facultad de Ciencias Exactas y Naturales; Laboratorio de Calidad de Agua Solicitud de trabajo Nº: 485/2021<br>• Análisis de potenciales impactos del drenado de áreas de pasturas inundables en el extremo norte de la Estancia Rodeo Guazú; Pier Cacciali et al.; 14 de Julio, 2020 |
| /INF/ | Informe de Auditoria – Apepu Frostal S.A |
| /Rem/ | 2021-09-08 Planilla de remedición de parcelas - Forestal Azul (002) |

| Reference | Document |
|---|---|
| /AD1/ | Paraguay Agricultural Sector Risk Assessment; Identification, prioritization, strategy and action plan; World Bank Group Report No. 93943-PY, June 2015 |
| /AD2/ | Forest plantations in Paraguay: Historical developments and a critical diagnosis in a SWOT-AHP framework; Szulecka et al, 12 November 2016 |
| /AD3/ | Mapa_Preliminar_Plantaciones_Forestales<br>https://www.gatewaytosouthamerica-newsblog.com/forestry-development-in-paraguay/ |
| /AD4/ | Mapa_Preliminar_Zonas_Potencial_de_Desarrollo_Forestal<br>https://www.gatewaytosouthamerica-newsblog.com/forestry-development-in-paraguay/ |
| /AD5/ | AD5_FAO (2006). Tendencias y perspectivas del sector forestal en América Latina y el Caribe. |
| /AD7/ | Confidential market survey, arbaro fund, 2019 |
| /AD8/ | www.pomera.com.ar |
| /AD9/ | https://www.globalforestwatch.org |
| /AD10/ | https://cdm.unfccc.int/Projects/DB/TUEV-SUED1245074838.6/view |
| /AD11/ | • Land use comparison Analysis; Excel "20200716 Land use comparison"<br>• Nienke Sleurink 2014. Large scale soy producers in Paraguay. Attitudes and behaviors towards sustainability. University of Utrecht, Faculty of Geosciences Master Thesis, August 2014<br>• GAIN Report 2017. Paraguay. Oilseeds and Products Annual<br>• GAIN Report 2019. Paraguay. Oilseeds and Products Annual |

| Reference | Document |
|---|---|
| /BE/ | Land use patterns and related carbon losses following deforestation in South America (2015); De Sy et al, |
| /PE1/ | Effect of spacing and water availability on root:shoot ratioinEucalyptus camaldulensis (2006), Barton et al. |
| /PE2/ | Development of root biomass in an Eucalyptus globulus plantation under different water and nutrient regimes (1995), Fabiao et al |
| /PE3/ | Global Wood Database; https://datadryad.org/stash/dataset/doi:10.5061/dryad.234 |
| /PR1/ | https://www.unique-wood.com/en/home/ |
| /PR2/ | https://www.unique-landuse.de/ |
| /PR3/ | Cashflow Calculations, PR3_ 20200716 Land use comparison |
| /PR4/ | The contract is confidential but was seen by the audit team; "Gesellschaftervereinbarung; Datum: 01.02.2018. |
| /PR5/ | GDF Documentation; FP128: Arbaro Fund – Sustainable Forestry Fund |
| /PR6/ | https://www.ultimahora.com/paraguay-perdio-22-millones-hectareas-incendios-los-ultimos-19-anos-n2840027.html |
| /DC/ | Contribuciones Nacionales de la República del Paraguay Visión Paraguay 2030 Plan Nacional de Desarrollo.<br>https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Paraguay%20First/Documento%20INDC%20Paraguay%2001-10-15.pdf |

| Reference | Document |
|---|---|
| /LE/ | AN ANALYSIS OF EXISTING LAWS ON FOREST PROTECTION IN THE MAIN SOY PRODUCING COUNTRIES IN LATIN AMERICA (2019); IUCN, Jinke van Dam et al. |
| /FFS/ | 2019-05-08-Volume equation analysis |
| /CC/ | Verhaltenskodex_UNIQUE_UFL |
| /UW/ | https://www.unique-wood.com/en/home/#team |
| /GS/ | https://registry.goldstandard.org/projects?q=&page=1 |
| /CDM/ | https://cdm.unfccc.int/Projects/projsearch.html |
| /ICAP/ | International Carbon Action Partnership (ICAP) - ETS Map (icapcarbonaction.com) |
| /ACR/ | https://americancarbonregistry.org/ |
| /AOR/ | https://www.csaregistries.ca/albertacarbonregistries/home.cfm |
| /CAR/ | http://www.climateactionreserve.org/ |

# APPENDIX 3: INTERVIEWS

| Reference | Mean | | Name | Organisation / Function |
|---|---|---|---|---|
| /IM01/ | Visit | ☐ Mr.<br>☒ Ms. | Andrea Eisenhut | Unique Wood, Environmental, Social and Governance Officer |
| /IM02/ | Visit | ☐ Mr.<br>☒ Ms. | Giannina Alvarez | Unique Wood, Forest planning and monitoring |

| Reference | Mean | | Name | Organisation / Function |
|---|---|---|---|---|
| /IM03/ | Visit | ☒ Mr.<br>☐ Ms. | Jorge Geleano | Unique Wood, Head of Forestry Production |
| /IM04/ | Visit | ☐ Mr.<br>☒ Ms. | Andrea Braun | Consultant, Unique Forestry and land use GmbH |
| /IM05/ | Visit | ☐ Mr.<br>☒ Ms. | Arami Jonjagatta | Unique Wood, Accountant |
| /IM06/ | Visit | ☐ Mr.<br>☒ Ms. | Gladys Núñez | Unique Wood, Community Liaison Officer |
| /IM07/ | Visit | ☐ Mr.<br>☒ Ms. | Teresita León | Unique Wood, Project Manager IKI |
| /IM08/ | Visit | ☒ Mr.<br>☐ Ms. | Jose Claudio Martinez | Apepu S.A., Playeso |
| /IM09/ | Visit | ☐ Mr.<br>☒ Ms. | Maria Aduarte | Apepu S.A., Cocina |
| /IM10/ | Visit | ☒ Mr.<br>☐ Ms. | Adan Melgarejo Riveros | Personal de Campo |
| /IM11/ | Visit | ☒ Mr.<br>☐ Ms. | Nelson Melgarejo Riveros | Personal de Campo |
| /IM12/ | Visit | ☒ Mr.<br>☐ Ms. | Oscar David Martinez | Personal de Campo |
| /IM13/ | Visit | ☒ Mr.<br>☐ Ms. | Alberto Molinas | Unique Wood, Head of timber sales |
| /IM14/ | Visit | ☒ Mr.<br>☐ Ms. | Alexis Sanchez Ortiz | Portonero |
| /IM15/ | Call | ☐ Mr.<br>☒ Ms. | Cecilia Larroza | Vecina Apepu |
| /IM16/ | Call | ☒ Mr.<br>☐ Ms. | Ruben Villasanti | Lawyer o the Family Larroza (former owner) |

| Reference | Mean | | Name | Organisation / Function |
|---|---|---|---|---|
| /IM17/ | Call | ☒ Mr.<br>☐ Ms. | Irene Carlo | Consultant, Unique Forestry and land use GmbH |

# APPENDIX 4: LIST OF FINDINGS

| CL ID | 01 | Section no. | 1.4 | Date : 08/10/2021 |
|---|---|---|---|---|

Description of CAR

Please clarify if the activity of enrichment planting within the remnants of natural forest shall be an potential project option for new instances under the grouped project.

Project participant response — Date : 25/01/2022

The enrichment planting component is not included in the project for two reasons: a) The system is still under proof of concept. In the first years, carbon stocks actually decrease, whereas they are expected to increase above baseline levels in the future; and b) there is currently no methodology under Verra for such a production system. There are methodologies that could potentially be used, currently under review. However, they can only be applied once they are officially approved, and their application would require a separate PDD. According to current VCS rules, different methodologies cannot be combined under one project. Having said this, we are still considering including this component into the carbon project in the future.

Documentation provided by project participant

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

DOE assessment — Date: 31/03/2022

Clarification is provided that the already established enhancement/enrichment activities within the remnants of natural forest are considered as project activities as soon an applicable VCS methodology is available.

FAR 2022-01:

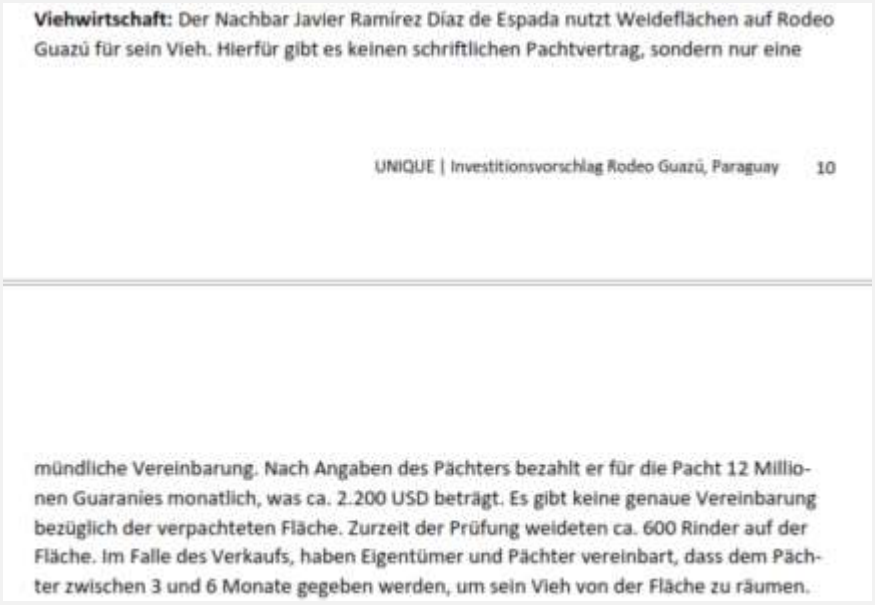
Forestal Azul S.A. is following a “first of its kind” approach approved by the national authorities by conducting enrichment plantings on 485 ha of degraded natural forest. Azul S.A. is aiming to integrate these areas (new instance) into the project once an applicable VCS methodology is developed and approved.
At the time of the next verification a clarification has to be provided if and how those instances can be included and under which VERRA approved methodology.

| Conclusion | |
|---|---|
| | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |

| CL ID | 02 | Section no. | 1.14 | Date : 08/10/2021 |
|---|---|---|---|---|
| Description of CAR | | | | |
| Please clarify if the clearing of planting strips within the natural forest complies with applicable laws such as the Moratorium on land use change of natural forest, etc. | | | | |
| Project participant response | | | | Date : 25/01/2022 |
| The company has an exception letter from the INFONA in order to establish enrichment planting in the natural forest in the area of Forestal Azul. This information together with the environmental license has been included as supporting documentation.<br><br>**Supporting Documents Folder CL_ID 02:**<br><br>Exception letter for enrichment planting in FASA.<br>Environmental license – FASA | | | | |
| Documentation provided by project participant | | | | |
| ☐ | Changes in the PD | Section(s): | New version No.: | |
| ☐ | Changes in XLS | Worksheet(s): | New version No.: | |
| ☒ | Other: Supporting documentation | | | |
| DOE assessment | | | | Date: 31/03/2022 |
| The PP presented an exception letter from INFONA officially providing allowance for the enhancement/enrichment activities with the remnants of natural forest, thus the proposed activities are legal. | | | | |
| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed | | | |

| CL ID | 03 | Section no. | 1.17 | Date : 08/10/2021 |
|---|---|---|---|---|
| Description of CAR | | | | |
| According to the information provided in the PDD the finca was used for cattle production.<br>Please clarify if the livestock was taken over by the new owners and if the number of cattle had to be reduced due to the project activity | | | | |
| Project participant response | | | | Date : 25/01/2022 |
| The owner did not have cattle before the purchase of the FMU, the land was leased to the neighbor. According to a conducted Due Diligence before the purchase, the area had approximately 600 animals under the lease agreement. After the sale of the area, the leased contract slowly finalize, and to our knowledge, the neighbor reduced correspondently the number of animals. The DD document cannot | | | | |

be shared due to confidentiality contract, but below is possible to find a short screenshot with the information regarding the livestock present in the area before purchasing.




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

| DOE assessment | Date: 31/03/2022 |
|---|---|

Information was presented, that the land was leased to a neighbour for grazing purposes before the purchase of the land. Between the former owner as well as the farmer there was the agreement, that the livestock has to be removed in case of a sale of the land and that the farmer would have up to half a year for that purpose. I.e. the livestock could remain on the land until it was sent for further processing/slaughter, hence due to the project there was no long-term relocation of the existing livestock.

| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |
|---|---|

| CL ID | 04 | Section no. | 2.1 | Date : 08/10/2021 |
|---|---|---|---|---|

Description of CAR

Please sustain that the plantation business is providing around 25 full time jobs compared to the pre-project land use of the project area

| Project participant response | Date : 25/01/2022 |
|---|---|

According to UNIQUE's own research, a typical cattle farm in Paraguay provides 1-3 employments per 1,000 ha[1]. The typical high-input mechanized soy farm provides 1 job per 200 ha according to research conducted by the independent Paraguayan journal El Surtidor[2].

During the Due Diligence conducted in December 2017, the estancia Apepu had about 2 workers. Now, Forestal Azul provided employment to an average of 70 and 86 Full Time Equivalents in 2019 and 2020, respectively. Monitoring sheets of labor input are attached.

**Supporting Documents Folder CL_ID 04:**

ESDD report
Labour Monitoring Sheets 2020

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

| DOE assessment | Date: 31/03/2022 |
|---|---|

Labour and work records were provided to sustain the provision of rd. 25 full time jobs.

The explanation provided is rational and the amount a laborers monitored correspond to good frosty practice.

| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |
|---|---|

| CL ID | 05 | Section no. | 2.2 | Date : 08/10/2021 |
|---|---|---|---|---|

Description of CAR

1. Please sustain the introduction of the social monitoring system (health and safety aspects / monthly assessment of labour relations / monitoring of sub-contractors)
2. Please sustain the introduction of a Community Liaison Officer (CLO)
3. Please provide proof of grievances received and its solvation/mitigation

| Project participant response | Date : 25/01/2022 |
|---|---|

[1] https://publications.iadb.org/publications/english/document/Upscaling-Silvopastoral-Systems-in-South-America.pdf

[2] https://archivo.elsurti.com/p20-pero-es-un-derecho-al-que-acceden-pocos-el-94-de-las-tierras-cultivables-de-paraguay-hoy-se-utilizan-para-productos-de-exportacion-de-agricultura-mecanizada-como-la-soja-el-maiz-y-el-trigo-es/

1. The company has a social monitoring system where the most relevant information regarding social and environmental issues are recorded. All aspects related to labour, health and safety, and grievances are monitored and can be verified through the monitoring records.
2. The company introduced a CLO working 50% for the project at the beginning of 2021. During the audit in August 2021, the local auditor had several meetings with Ms. Gladys Nuñez.
3. The grievance mechanism is part of the social monitoring system and has been included as supporting documentation.

**Supporting Documents Folder CL_ID 05:**

- Social and Environmental Monitoring System

  2020 Monitoreo AS

| Documentation provided by project participant | | | |
|---|---|---|---|
| ☐ | Changes in the PD | Section(s): | New version No.: |
| ☐ | Changes in XLS | Worksheet(s): | New version No.: |
| ☒ | Other: Clarification and supporting documentation | | |
| DOE assessment | | | Date: 31/03/2022 |

Evidence is provided to sustain the introduction of a social monitoring system including monitoring, social security payments, health and safety monitoring and training field record.

The information provided was crosschecked during the field visit as well as with reports of the FSC Main audit (2018) as well as the 1st, 2nd and 3rd surveillance audits (2019/20/21).

| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |
|---|---|

| CL ID | 06 | Section no. | 2.3 | Date : 08/10/2021 |
|---|---|---|---|---|

Description of CAR

- Please clarify if the listed environmental impacts actually existed (e.g. Displacement, Habitat destruction) Note: the fincas existed already for a long time
- Please sustain the engagement of environmental and social actors as described.

Project participant response — Date :25/01/2022

The risk table has been re-formulated showing that impacts like displacement or habitat conversion have not taken place.

The engagement of environmental and social actors has been conducted usually through the following engagement methods:

- First meeting with communities to present project
- Consultation with environmental and social stakeholders on the identification of HCV.

- A careful Due Diligence has been conducted ruling out any land disputes. In addition, no habitat destruction has been conducted.

**Supporting Documents Folder CL_ID 06:**

- First meeting with communities to present project
- Consultation with environmental and social stakeholders on the identification of HCV.

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

| DOE assessment | Date: 31/03/2022 |
|---|---|
| Clarification was provided regarding actually existing environmental impact that correspond with the observations made during the field visit. Further Clarification regarding the extent of the engagement of environmental and social actors was provided and sustained.<br><br>The information provided was crosschecked during the field visit as well as with reports of the FSC Main audit (2018) as well as the 1st, 2nd and 3rd surveillance audits (2019/20/21). | |

| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |
|---|---|

| CAR ID | 01 | Section no. | 2.4 | Date : 08/10/2021 |
|---|---|---|---|---|

| Description of CAR | |
|---|---|
| Please update section 2.4 according to the responds received during the public comment period. | |
| Project participant response | Date : 25/01/2022 |
| During the public comment period, no comments were received regarding the current project.<br><br>**Supporting Documents Folder CAR_ID 01:**<br>Email by Verra confirming that no comments were received during the PC Period. | |

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

| | | |
|---|---|---|
| ☒ | Other: Supporting Document | |

| | |
|---|---|
| DOE assessment | Date: 31/03/2022 |
| The section 2.4 was updated as required by the standard. | |
| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |

| CAR ID | 02 | Section no. | 2.5 | Date : 08/10/2021 |
|---|---|---|---|---|

| |
|---|
| Description of CAR |
| Please specify who the project complies with AFOLU-specific safeguards as outlined by the standard/PDD-template |

| | |
|---|---|
| Project participant response | Date : 25/01/2022 |
| The PDD was updated accordingly. Stakeholder identification, gender and risks have been included. | |

| | | | |
|---|---|---|---|
| Documentation provided by project participant | | | |
| ☒ | Changes in the PD | Section(s): 2.3 and 2.5 | New version No.: |
| ☐ | Changes in XLS | Worksheet(s): | New version No.: |
| ☐ | Other: | | |

| | |
|---|---|
| DOE assessment | Date: 31/03/2022 |
| The PDD was updated accordingly. Stakeholder identification and risks have been included. | |
| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |

| CL ID | 07 | Section no. | 3.4 | Date : 08/10/2021 |
|---|---|---|---|---|

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|---|
| Description of CAR |
| 1. Please clarify if the moratorium on forest conversion in Eastern Paraguay (Law N° 2524/2004) that ran out in December 2020 was extended<br>2. Please sustain “the absence of efficient markets and insurance mechanisms” for the project activity<br>3. Please clarify if the enhancement planting within the remnants of natural forest is a potential project activity under the grouped project<br>4. Please explain why, in the context of the enrichment plantings, those haven’t yet been included in the first project instances |

| | |
|---|---|
| Project participant response | Date : 25/01/2022 |

1. The moratorium on forest conversion in Eastern Paraguay has been extended for 10 more years in December 2020.

2. Regarding the absence of market mechanisms, we assume the Finding is about our argument regarding the under-developed wood markets in the country. A study conducted in 2019 commissioned by Arbaro has documented the current wood market situation in Paraguay, and its challenges.

3 & 4. The enrichment planting component is not included in the project for two reasons: a) The system is still under proof of concept. In the first years, carbon stocks actually decrease, whereas they are expected to increase above baseline levels in the future; and b) there is currently no methodology under Verra for such a production system. There are methodologies that could potentially be used, currently under review. However, they can only be applied once they are officially approved, and their application would require a separate PDD. According to current VCS rules, different methodologies cannot be combined under one project. Having said this, we are still considering including this component into the carbon project in the future.

**Supporting Documents Folder CL_ID 07:**
Law 6676/2020 that extends the moratorium on deforestation
2019 Arbaro market study

Documentation provided by project participant

| | | | |
|---|---|---|---|
| ☒ | Changes in the PD | Section(s): 1.14 | New version No.: |
| ☐ | Changes in XLS | Worksheet(s): | New version No.: |
| ☒ | Other: Additional documentation | | |

DOE assessment — Date: 31/03/2022

Clarification in regard to the moratorium on forest conversion in Eastern Paraguay was provided as requested. The moratorium has been extended and the PDD adapted accordingly.

In regard to the absence of efficient markets a market study was provided, describing the status of the wood market in Paraguay. This information could be crosschecked via Interviews in the course of the field visit respectively preaudit exploratory calls with plantation operators.

Clarification is provided that the already established enhancement/enrichment activities within the remnants of natural forest are considered as project activities as soon an applicable VCS methodology is available.

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

| CL ID | 08 | Section no. | 3.5 | Date : 08/10/2021 |
|---|---|---|---|---|

Description of CAR

| | | | |
|---|---|---|---|
| The PDD mentions 53,000 ha of commercial plantations in 2015. Please clarify if more recent numbers of the national forest inventory are available (Step 4) | | | |
| Project participant response | | | Date : 25/01/2022 |
| This information of the National Forest Inventory 2015 has been updated. Based on current estimations, there are about 80,000 to 100,000 ha in Paraguay (of which 75 % for woodfuel production), whereas between 360,000 and 400,000 ha are needed to close the sustainable supply gap of ca. 11-12 million m³ per year. | | | |
| Documentation provided by project participant | | | |
| ☒ | Changes in the PD | Section(s):3.5 | New version No.: |
| ☐ | Changes in XLS | Worksheet(s): | New version No.: |
| ☐ | Other: | | |
| DOE assessment | | | Date: 31/03/2022 |
| Clarification in regard to the moratorium on forest conversion in Eastern Paraguay was provided as requested. The moratorium has been extended and the PDD adapted accordingly. | | | |
| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed | | |

| CL ID | 09 | Section no. | 4.1 | Date : 08/10/2021 |
|---|---|---|---|---|
| Description of CAR | | | | |
| Please provide the imagery based on which the baseline stratification was conducted | | | | |
| Project participant response | | | | Date : 25/01/2022 |
| The following documents have been uploaded in the cloud:<br>**Supporting Documents Folder CL_ID 09:**<br>2017 Sentinel Images of the area | | | | |
| Documentation provided by project participant | | | | |
| ☐ | Changes in the PD | Section(s): | | New version No.: |
| ☐ | Changes in XLS | Worksheet(s): | | New version No.: |
| ☐ | Other: | | | |
| DOE assessment | | | | Date: 31/03/2022 |

| | |
|---|---|
| Imagery was provided as requested. | |
| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |

| CAR ID | 03 | Section no. | 4.1 | Date : 08/10/2021 |
|---|---|---|---|---|
| Description of CAR | | | | |
| Please clarify which precision level was reached while estimating the baseline carbon stock | | | | |
| Project participant response | | | | Date : 25/01/2022 |
| Precision level is calculated in the Ex-Ante Excel documentation, under Baseline – CDM, columns AO-AY. The following documents have been uploaded in the cloud:<br>**Supporting Documents CAR_ID 03:**<br>- Excel analysis for baseline precision level (Ex-Ante Excel) | | | | |
| Documentation provided by project participant | | | | |
| ☐ | Changes in the PD | Section(s): | | New version No.: |
| ☒ | Changes in XLS | Worksheet(s): | | New version No.: |
| ☐ | Other: | | | |
| DOE assessment | | | | Date: 31/03/2022 |
| the sampling error of the baseline stratification / land cover classification is calculated from the proportion of plots assessed falling in the vegetation type (shrub/grass/tree) weighted by the total number of plots assessed. Depending on the uncertainty reached an uncertainty discount was applied.<br>As no standard deviation is available due to the assessment, the deduction is based on the baseline carbon stock estimated per each baseline strata. Contrary to the applied CDM Tool the deduction is converted into a addition. I.e. in case that the uncertainty is > 30% the 100% discount is converted into an 100% plus of the estimated baseline carbon stock. Since it is the baseline carbon stock, this approach ensures a lower value for the overall carbon credits (VERs) to be issued. | | | | |
| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed | | | |

| CAR ID | 04 | Section no. | 5.2 | Date : 08/10/2021 |
|---|---|---|---|---|
| Description of CAR | | | | |
| Please clarify why QA/QC procedures in form of remeasurement of a certain amount of sample plots is not deemed necessary. | | | | |

| | | | |
|---|---|---|---|
| Project participant response | | | Date : 25/01/2022 |
| QA/QC procedures in form of remeasurements are deemed necessary. 5% of the PSPs will be remeasured in the future. This information has been updated in the forest inventory SOPs. | | | |
| Documentation provided by project participant | | | |
| ☒ | Changes in the PD | Section(s): 5.3 | New version No.: |
| ☐ | Changes in XLS | Worksheet(s): | New version No.: |
| ☐ | Other: | | |
| DOE assessment | | | Date: 31/03/2022 |
| QA/QC procedures in form of remeasurements are deemed necessary. 5% of the PSPs will be remeasured in the future. | | | |
| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed | | |

| CAR ID | 05 | Section no. | NPRR | Date : 08/10/2021 |
|---|---|---|---|---|
| Description of CAR | | | | |
| Please provide a project specific Non-Permanence Risk Report | | | | |
| Project participant response | | | | Date : 25/01/2022 |
| A complete NPRR has been prepared and provided. Also, the PDD buffer calculations have been accordingly updated.<br>**Supporting Documents CAR_ID 05:**<br>- NPRR Forestal Azul<br>- Risk Assessment Forestal Azul Excel<br>- Governance Score Paraguay 2015-2019 | | | | |
| Documentation provided by project participant | | | | |
| ☒ | Changes in the PD | Section(s): 6.5 | New version No.: | |
| ☐ | Changes in XLS | Worksheet(s): | New version No.: | |
| ☒ | Other: New Document Provided | | | |
| DOE assessment | | | | Date: 31/03/2022 |

| | |
|---|---|
| NPRR was provided as requested. | |
| Conclusion | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |

| CAR ID | 06 | Section no. | Post TR | Date : 28/04/2022 |
|---|---|---|---|---|

Description of CAR

*1)*

1. Sec. 1.1 and table 1.11: Clarify any update in implementation until 2022 and change the description.

*2)*

2. CAR: Figure 5: It says 500trees/ha, below in the graph it says 400 trees/ha. Please clarify and correct.

3. CAR: Sec. 2.4: The exact public comment period has not been indicated.

4. CL: Sec. 2.5: Clarify if there are any results from that gender assessment and change description.

5. CAR: Sec. 3.1: Following tools are not listed: CDM Tool to identify the appropriateness of allometric equation is missing. & Tool Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity" (Version 02).

6. CAR: Sec. 3.5: No conclusion has been drawn whether or not the project is common practice.

7. CAR: Sec 6.4: justification why leakage is assumed 0 is missing in this section.

8. CAR: Sec 6.5: The table is not complete for 2020 values.

9. Format: See related comments in the Joint PD.

| Project participant response | Date : 04/05/2022 |
|---|---|

1. Sec 1.1 and table 1.11: The area has been corrected. Up to 2021 the total area planted is included in the project 1,307 ha. Further expansion in 2022 is to be expected.
2. CAR: Figure 5: the figure has been modified and now shows the correct 500 trees / ha
3. CAR:Sec 2.4: The period period (12/07/2021 – 11/08/2021) has been indicated in the PDD.
4. CL: Sec. 2.5: The project did not have a gender assessment, the complete paragraph describing it has been deleted.
5. CAR: Sec. 3.1: the project proponent has included both tools (appropriateness of allometric equations and leakage)

6. CAR: Sec 3.5: The following conclusion has been included in the document at the end of Section 3.5: The project is considered an innovative project as the production of quality timber is foreseen as well as in parts enhancement plantings of highly degraded forests which has never taken place in the host country. Therefore, the project is not considered a common practice.
7. CAR: Sec 6.4: The following justification has been included in the section 6.4 of the PDD. Leakage is in compliance with Section 6 of the A/R Tool as no displacement of cattle took place for planting.
8. CAR 6.5: The table has been accordingly updated
9. Format: all comments regarding format (blank pages, commas in tables) have been accordingly corrected.

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

DOE assessment — Date: 05/05/2022

1. Clarification was provided. Up to 2021 the total area planted is included in the project 1,307 ha. Further expansion in 2021 belong to the enrichment plantings which are not accounted for yet due to the non-existence of a appropriate methodology.
2. Figures have been corrected as requested.
3. The period period (12/07/2021 – 11/08/2021) has been added as requested.
4. There was no explicit gender assessment, it was formally included accidentally. The section was deleted.
5. The missing tools have been added as requested.
6. Conclusion has been added as requested
7. A justification has been added as requested.
8. The table has been updated as required.
9. Comments concerning the formatting have been integrated as requested.

| Conclusion | |
|---|---|
| | ☐ Additional action should be taken (finding remains open)<br>☒ The finding is closed |

# APPENDIX 5: STATEMENT OF COMPETENCE

TÜV NORD Certification

**Statement of Competence**

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

**Ms. Cecilia Pizzurno**

Authorization status for technical areas within sectoral scopes:

| CODE | TECHNICAL AREA |
|---|---|
| 14.1 | Afforestation and Reforestation |

399 - Rev. 0, Date: 2021-03-02

TÜV NORD Certification

**Statement of Competence**

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

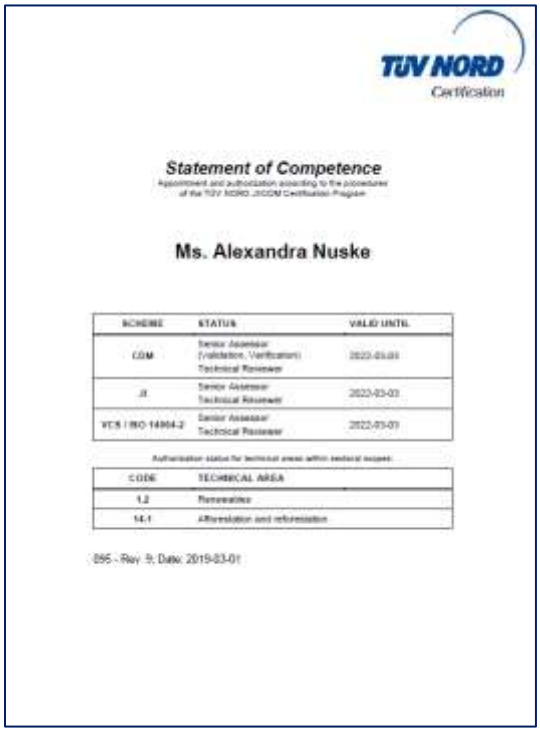
**Mr. Martin Opitz**

| SCHEME | STATUS | VALID UNTIL |
|---|---|---|
| CDM | Lead Assessor (Validation, Verification) | 2021-03-08 |
| VCS | Lead Assessor (Validation, Verification) | 2021-03-08 |

Authorization status for technical areas within sectoral scopes:

| CODE | TECHNICAL AREA |
|---|---|
| 14.1 | Afforestation and Reforestation |

371 - Rev. 1, Date: 2018-04-12



TÜV NORD Certification

**Statement of Competence**

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

**Ms. Alexandra Nuske**

| SCHEME | STATUS | VALID UNTIL |
|---|---|---|
| CDM | Senior Assessor (Validation, Verification) Technical Reviewer | 2023-03-01 |
| JI | Senior Assessor Technical Reviewer | 2023-03-01 |
| VCS / ISO 14064-2 | Senior Assessor Technical Reviewer | 2022-03-01 |

Authorization status for technical areas within sectoral scopes:

| CODE | TECHNICAL AREA |
|---|---|
| 1.2 | Renewables |
| 14.1 | Afforestation and reforestation |

395 - Rev. 9, Date: 2019-03-01