Gold Standard for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

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VERSION		**v.1.5**

RELATED SUPPORT

- TEMPLATE GUIDE Key Project Information & Project Design Document

This document contains the following sections

SECTION A. DESCRIPTION OF PROJECT

SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

SECTION C. DURATION AND CREDITING PERIOD

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

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Appendix 1 - Safeguarding Principles Assessment (mandatory)

Appendix 2 - Contact information of project developer(s) (mandatory)

Appendix 3 - LUF Additional Information (project specific)

Appendix 4 - Design Changes

KEY PROJECT INFORMATION

GS ID of Project	GS23504
Title of Project	CDR ORINOQUÍA
Time of First Submission Date	23/03/2026
Date of Design Certification	30/10/2026
Version number of the PDD	1.0
Completion date of version	30/10/2026
Project Developer	Biofix Consultoría S.A.S BIC
Project Representative	Biofix Consultoría S.A.S BIC
Project Participants and any communities involved	Coserveco S.A.S., and the private landowners of the Arizona, La Fortuna, La Carolina, San Andres, Villa Claudia, Buenos Aires, and San Miguel properties.
Host Country (ies)	Colombia
Activity Requirements applied	☐ Community Service Activity ☐ Renewable Energy ☒ Land-Use and Forests Activity Requirements/Risks & Capacities ☐ N/A
Scale of the project activity	☐ Micro scale ☐ Small Scale ☒ Large Scale
Other Requirements applied	N/A
Methodology (ies) applied and version number	Methodology for afforestation/reforestation (A/R) GHGs emission reduction & sequestration - SDG 13 Version 2.1.
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
Project Cycle:	☒ Regular ☐ Retroactive

Land-use & Forest Key Project Information[1]

Scope:	☒ Forestry ☐ Agriculture

[1] Please refer to Appendix 3 for detailed information on LUF projects

Silvicultural system:	☒ Conservation (no use of timber) ☒ Selective Harvesting ☒ Rotation Forestry
Project Area (ha):	12,943 ha
Eligible Area (ha):	8,441 ha
10% Set Aside Conservation area (ha):	The project manages 26.43% of the eligible area for the protection and enhancement of biodiversity utilizing a High Conservation Value (HCV) approach. This management strategy is justified by the planned activities, which include forest enrichment within identified HCV areas, such as riparian forests and natural savanna forests. In addition to developing activities with commercial species, a fundamental component of the overall environmental strategy is to improve connectivity between patches of natural areas. This is achieved by increasing biodiversity through the enrichment of ecological corridors.
Evidence that Project Area Boundary is clearly distinguishable in the field:	The project area was delimited with GIS coverage, ground survey data with GPS, and remote imagery. An analysis of the land cover on the selected properties was carried out. The available area that can be initially obtained to carry out the reforestation processes in each property was then determined. The complete analysis of the information, including the exclusion of areas related to the establishment of roads, indicates that the potential area for the implementation of the forestry project is 8,441 hectares.
Planting Area	The total area of 8,441 hectares will be used to establish forest plantations.
How many Modelling Units (MUs) are included in the eligible area:	8
Summary of New Areas added (copy and insert as needed):	
Size (ha):	N/A
Date Added	N/A

Table 1 – Estimated Sustainable Development Contributions

SUSTAINABLE DEVELOPMENT GOALS TARGETED	SDG IMPACT (DEFINED IN B.6)	ESTIMATED ANNUAL AVERAGE	UNITS OR PRODUCTS
13 Climate Action	GHG Emission Reductions	83,768	VERs
8 Decent Work and Economic Growth	Direct jobs created.	**75 direct jobs** annually during the first three years of implementation. **7 jobs** annually for the remaining 37 years of the project's life cycle.	Number
5 Gender Equality	Women participating in project activities and decision-making committees.	50	% Percentage
	Leadership positions held by women in the project.	50	% Percentage
15 Life on Land	Area of land reforested (ha).	8.441	ha
	Survival rate of planted trees (%).	95	% Percentage

SECTION A. DESCRIPTION OF PROJECT

A.1 Purpose and general description of project

>> The **CDR ORINOQUÍA** project is a large-scale afforestation, reforestation, and revegetation (ARR) initiative developed by Biofix Consultoría S.A.S BIC. The project's primary purpose is to mitigate and adapt to the effects of climate change through the restoration of degraded savannah ecosystems in the Orinoco region of Colombia. The project involves the establishment of forest plantations using non-native species (*Eucalyptus pellita* and *Pinus caribaea*) and a system for the enrichment of natural areas with native species from the zone, covering both non-flood zones (*Cassia grandis*, *Hymenaea courbaril*, *Caraipa llanorum, Simarouba amara, Albizia saman* and *Anadenanthera peregrina*) and flooded areas like gallery forests and moriche forests (*Mauritia flexuosa*, *Euterpe precatoria* and *Manilkara zapota)*. By planting 8,441 hectares, the project intends to increase carbon retention, generate certified carbon credits, and contribute to the region's sustainable development.

The location of the project activity. The project is located on privately owned lands in the municipality of Puerto Gaitán, Meta, Colombia. The municipality is bordered to the North by the department of Casanare and to the East by the department of Vichada. The project area spans 8,441 hectares across seven distinct properties: "*Arizona*", "*La Fortuna*", "*La Carolina*", "*San Andres*", "*Villa Claudia*", "*Buenos Aires*", and "*San Miguel*".

The technologies/measures to be employed and/or implemented by the project activity. The project employs an integrated strategy to achieve its climate and sustainability goals through reforestation. The core of this approach involves establishing and managing a permanent nursery capable of producing over three million seedlings annually for planting across 8,441 hectares of degraded land. Heavy machinery like tractors equipped with specialized tools will be used for site preparation, while GPS and drones will aid in monitoring. An internal road network is planned to support project operations. These measures are crucial for sequestering carbon and meeting several Sustainable Development Goals (SDGs), including SDG 13 (Climate Action), SDG 8 (Decent Work and Economic Growth), and SDG 15 (Life on Land).

The project boundary. The project boundary encompasses all land parcels where the ARR activities will take place, totaling 8,441 hectares. The boundary includes the following GHG sources and sinks:

- **Baseline Scenario:** GHG emissions from biomass burning and fertilizer use are considered insignificant and are not included in the calculation.
- **Project Scenario:** The main carbon pools included are aboveground woody biomass, belowground woody biomass, and Soil Organic Carbon (SOC). Emissions from biomass burning, and fertilizer application are considered insignificant and are accounted for as zero. The only exception is N_2O emissions from fertilizer, which will be quantified and C_2O emissions from fossil fuel combustion.

The baseline scenario. The baseline scenario for the project is the continuation of the current land use, which is degraded savannah grasslands with minimal woody vegetation. Historically, these areas have been subject to deforestation and burning for agriculture and livestock. The baseline assumption is set to zero, as the project has not yet been implemented, and the existing biomass is considered insignificant. The baseline will be monitored using remote sensing methods on control plots located outside the project area.

A.1.1. Eligibility of the project under Gold Standard

>> The project meets all eligibility criteria for certification under Gold Standard for the Global Goals (GS4GG).

Pre-identified Eligibility. This project is an Afforestation, Reforestation, and Revegetation (ARR) initiative, which is a pre-identified and eligible project type under the Land Use & Forests (LUF) Activity Requirements.

General Eligibility Criteria. The project fulfills all general eligibility criteria. It involves on-the-ground physical implementation in Colombia, a valid host country. The project has a clearly defined 8,441-hectare project area and boundary. It is privately funded and operates in full compliance with all Colombian legal, environmental, and social regulations.

Exclusion from Other Schemes. The project is not registered with, nor does it intend to seek registration under, any other voluntary or compliance carbon schemes. This ensures that all impacts and credits generated are unique and not subject to double-counting.

Emission Caps and Trading. The project is located in Colombia, a country that is not on the UNFCCC Annex 1 list and does not have a national or regional emissions reduction cap or an emissions trading system that includes the scope of this project.

No Double Counting. The project area consists of seven distinct private properties in the municipality of Puerto Gaitán. A thorough review has confirmed that none of these properties or the broader project area overlaps with any other registered carbon project under Gold Standard or any other voluntary or compliance standard.

Compliance with Laws. The project has undergone a comprehensive legal and regulatory review to ensure compliance with all relevant Colombian laws, including the Forest Policy of the Ministry of Environment and Sustainable Development. The project's design and implementation plan adhere to all national environmental, ecological, and social regulations.

No Deforestation. In accordance with the Land Use & Forests Activity Requirements, the Project Developer guarantees that the project activities do not involve the conversion of natural forests to plantations. The project area is strictly composed of degraded grasslands and natural savannas with low carbon stocks, as verified by multi-temporal satellite imagery (Landsat and Sentinel) covering the last 20 years.

Land Use History and Intent - Historical Analysis. Multi-temporal analysis of the eligible area confirms that it has been used for extensive cattle grazing and has remained in a state of degraded savanna for more than 10 years prior to the project start date (May 15, 2026).

Absence of Intentional Deforestation. The project area, comprising 8,441 hectares, strictly complies with the requirement that the project activity did not cause or incentivize deforestation prior to its commencement. The following evidence

demonstrates compliance with the 10-year rule (Paragraph 3.1.1. (c) of the LUF Activity Requirements):

Multi-Temporal Land Cover Analysis. A comprehensive remote sensing assessment using Landsat 7/8 and Sentinel-2 imagery was conducted for the period between 2016 and 2026. This analysis confirms that the project boundary was categorized as "Pastos Limpios" (Clean Pastures) and "Herbazales" (Natural Grasslands) throughout the decade preceding the project start date. No transitions from primary or secondary forest to grassland were detected within this window.

Evidence of Long-Term Land Use (Baseline Consistency). Historical land titles and agricultural records for the seven properties show a continuous history of extensive cattle ranching and traditional savanna management. The absence of forest cover is a natural characteristic of the Orinoquía High Plains or a result of land-use changes dating back over 20 years, well beyond the 10-year restricted period.

Verification of Intent. The Project Developer (Biofix BIC) and the implementer (Coserveco S.A.S) affirm that no land clearing activities were performed to facilitate the ARR project. All planting areas are located on degraded soils with high acidity and low organic matter, typical of long-term grazing lands. The decision to implement the project was a response to the current degraded state of the savannas and not a driver for land conversion.

Standard Compliance for Preliminary Review. Documentation, including the Land Cover Transition Map (2016–2026), is available for Gold Standard during the Preliminary Review. This map utilizes the CORINE Land Cover methodology adapted for Colombia, proving that the vegetation present at the project start date consists only of native grasses and shrubs, with no woody biomass exceeding the forest threshold defined by the Colombian DNA (IDEAM).

A.1.2. Legal ownership of products generated by the project and legal rights to alter use of resources required to service the project

>>The CDR ORINOQUÍA project has a clear and well-documented legal structure to ensure full ownership of all generated products and the necessary rights to implement project activities.

Legal Ownership of Products. Carbon credits generated by the CDR ORINOQUÍA project are exclusively owned, issued, and commercialized by BIOFIX Consultoría S.A.S. BIC. This exclusivity is established and formalized through a Temporary Association Contract (Contrato de Asociación Temporal) executed between BIOFIX BIC, the private landowners of the seven project properties, and COSERVECO S.A.S. as the forestry implementer.
Under this contractual structure, the roles and economic rights of each party are precisely defined. The landowners contribute their properties as an in-kind asset to enable the generation of carbon credits and their subsequent commercialization, as established in Clause 5 of the Contract. This contribution does not confer upon the landowners any right to receive carbon credits as tangible assets or financial instruments. Clause 11 of the Contract grants BIOFIX Consultoría S.A.S. BIC full and exclusive authority over the issuance and commercialization of all carbon credits generated within the project area during the entire term of the agreement.

The economic benefit derived from credit commercialization is distributed among the parties in the form of net monetary proceeds, not as a transfer of credits in kind. As established in Clause 6 of the Contract, once all project costs and investments recovered by BIOFIX BIC are deducted from gross commercialization revenues, the resulting net profit is distributed as follows: 45% to the landowners, 45% to BIOFIX Consultoría S.A.S. BIC, and 10% to COSERVECO S.A.S. This mechanism constitutes a monetary profit-sharing arrangement, and no ownership or property rights over the carbon credits themselves are transferred to the landowners or to COSERVECO at any point.

As a direct consequence of this structure, BIOFIX Consultoría S.A.S. BIC is the sole Gold Standard Impact Registry Account Holder and the legal owner of all units first issued by the Gold Standard Foundation on the Impact Registry.

Legal Rights to Resources. The project has obtained the necessary legal rights to use the resources required for its implementation. Since the project will be developed on private land, the landowners have rights over the use of the land within their properties. However, since natural resources are for public use, the right to use water resources must be processed by the competent environmental authority, which in this case is

Corporation for the Sustainable Development of the Macarena Special Management Area (Cormacarena). The water rights, necessary for operations primarily for nursery activities, will correspond to the application for a permit to construct a deep well, which translates into an application for a Groundwater Concession. The right to grant a Groundwater Concession Permit is supported by the following regulations:

- **Decree/Law 2811 of 1974:** "*Enacting the National Code on Renewable Natural Resources and Environmental Protection*".
- **Decree 1541 of 1978:** "*Regulating Part III of Book II of Decree-Law 2811 of 1974: 'On non-maritime waters and partially Law 23 of 1973*".
- **Decree 1594 of 1984:** "*Whereby Title 1 of Law 9 of 1979 is partially regulated, as well as Chapter 2 of Title 5-Part 3-Book 2 and Title 3 of Part 3-Book 1-of Decree-Law 2811 of 1974 regarding the use of water and liquid resources*".
- **Law 99 of 1993:** "*Creating the Ministry of the Environment, reorganizing the public sector responsible for the management and conservation of the environment and renewable natural resources, organizing the National Environmental System (SINA), and enacting other provisions*".
- **Decree 4742 of 2005:** "*Amending Article 12 of Decree 155 of 2004, which regulates Article 43 of Law 99 of 1993 on water use rates*".
- **Decree 3930 of 2010:** "*Whereby Title 1 of Law 9 of 1979, as well as Chapter 2 of Title 5 - Part 3 - Book 2 of Decree Law 2811 of 1974, are partially regulated with regard to water use and liquid waste, and other provisions are enacted*".

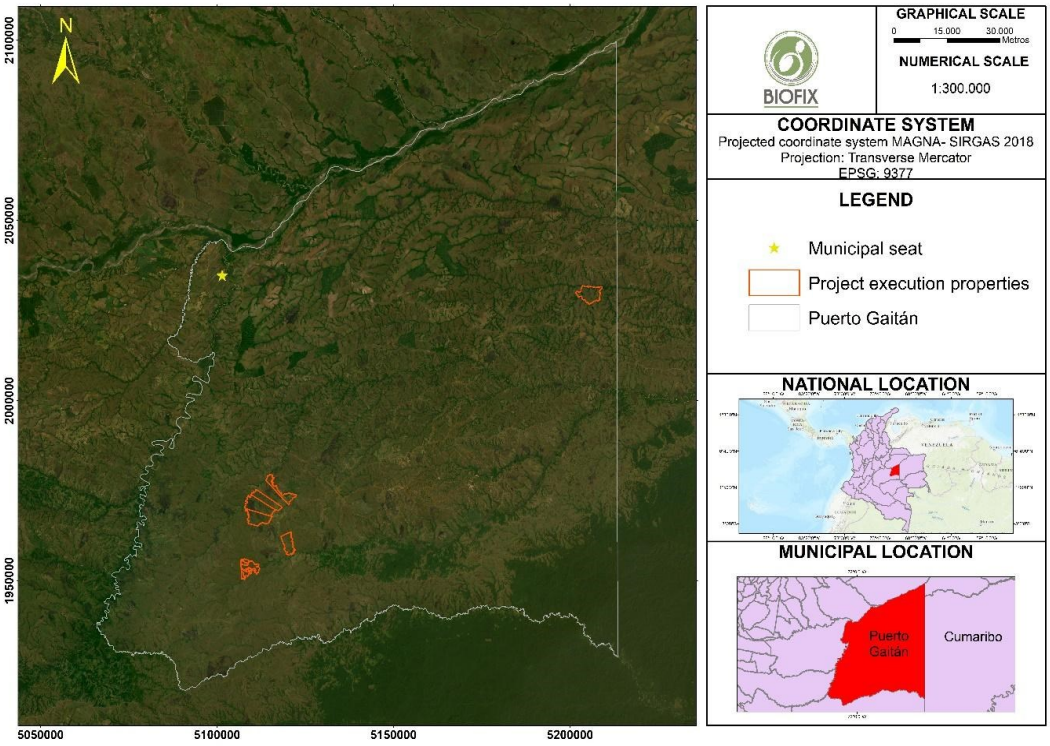
Legal Land Title/Tenure: The land on which the project is implemented is held under full and uncontested legal title. Proof of land ownership is provided through certificates of tradition and freedom of land tenure for each of the seven properties involved. This documentation is crucial for an A/R project, as required by the Land Use & Forest (LUF) Activity Requirements, and ensures that the project activities are being conducted on legally recognized land, preventing any disputes or conflicts over tenure.

A.2 Location of project

>>The project is located in the municipality of Puerto Gaitán, department of Meta, Colombia. This area is situated at an altitude of 149 meters above sea level. The project's activities will take place on seven privately owned properties: Arizona, La

Fortuna, La Carolina, San Andres, Villa Claudia, Buenos Aires, and San Miguel. The location of these properties are illustrated in Figure 1.

Figure 1. Project Location



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Project area. The selection of the Project areas was reviewed by the reforestation, land manager and regional operator Coserveco S.A.S company. This company provided the preliminary analysis material for the diagnosis and feasibility of the proposal to Biofix BIC, which, with its technical team evaluated each of the degraded areas on the basis of its geographical analysis. In this way, the weaknesses, opportunities, strengths and threats of the potential areas for the implementation of the Project were identified. The sites called "*Arizona*", "*La Fortuna*", "*La Carolina*", "*San Andres*", "*Villa Claudia*", "*Buenos Aires*" and "*San Miguel*" located in the municipality of Puerto Gaitán department of Meta, were studied. Below, are the coordinates of the central point and the location of each of the sites considered for the implementation of the proposal. These coordinates use the MAGNA-SIRGAS 2018 coordinate system with a Transverse Mercator projection (EPSG: 9377).

Table 2. Referencing of selected sites for the CDR Orinoquia Project.

Property number	Property name	Municipal sidewalk	Centroids North	Centroids East
1	Arizona	Planas	1,967,324	5,111,634
2	La Fortuna		1,972,546	5,114,144
3	La Carolina		1,970,715	5,111,793
4	San Andres		1,959,468	5,120,356
5	Villa Claudia		1,975,030	5,118,025
6	Buenos Aires	Tillava	1,953,615	5,108,871
7	San Miguel	Planas	2,029,605	5,205,601

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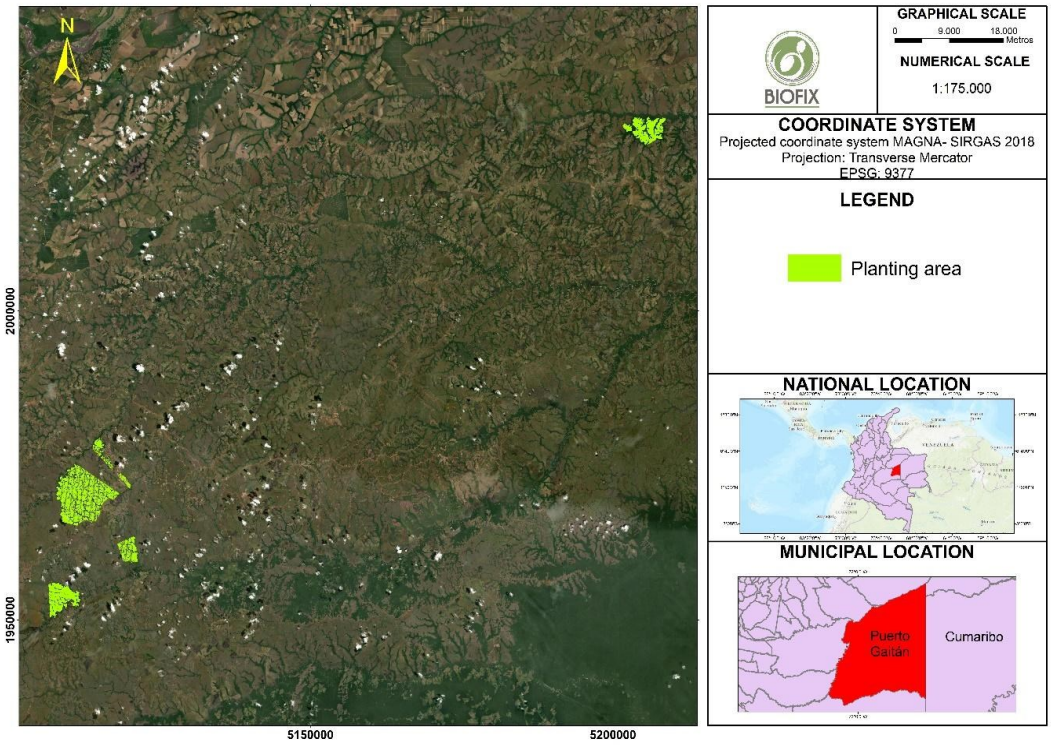
Figure 2. Selected sites for reforestation Project



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An analysis of the land cover on the selected properties was then carried out. The available area that can be initially obtained to carry out the reforestation processes in each property was then determined. Below is a detailed description of the main characteristics for each property according to the land cover analysis.

- **Arizona Property**

The Arizona property has a total area of 2,001 hectares, of which 1,703 hectares have potential for forest reforestation activities, as shown below:

Table 3. Arizona property characterization coverages

Coverage type	Area (ha)	Area (%)
Forest	247.2	12.4
Roads	50.7	2.5
Potential Reforestation	1,703.2	85.1
TOTAL	**2,001.10**	**100**

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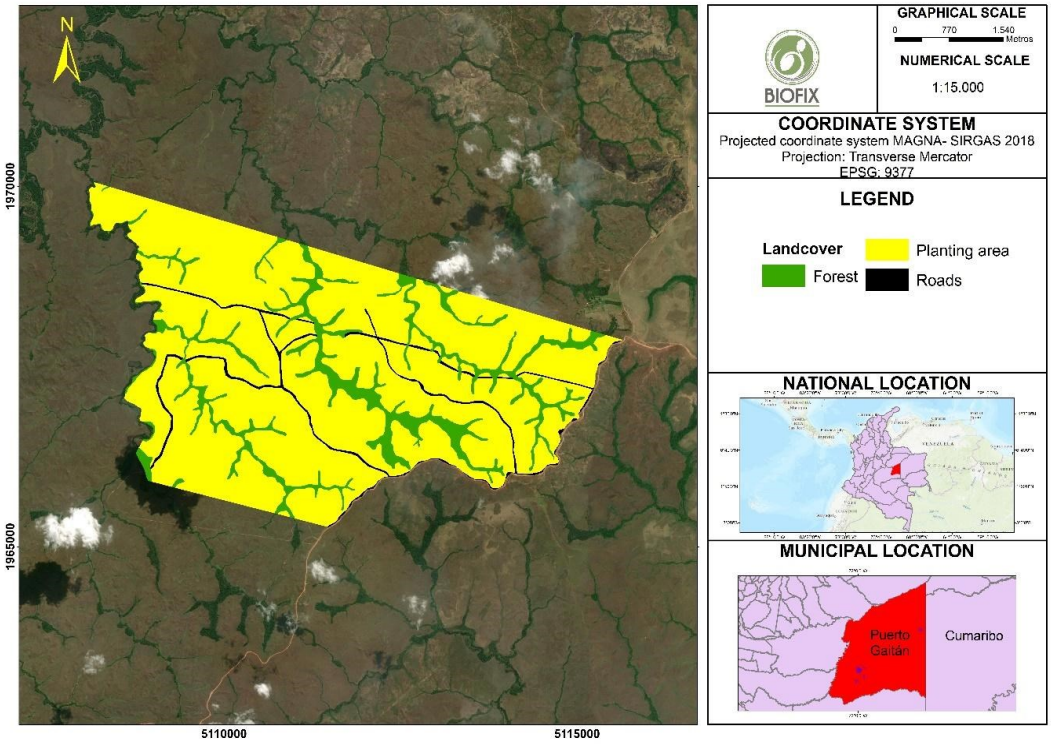
Figure 3. Types of cover present on Arizona property



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- **La Fortuna Property**

La Fortuna property has a total area of 1,603 hectares, of which 1,397 hectares have potential for forest reforestation, as shown below:

Table 4. La Fortuna property characterization coverages

Coverage type	Area (ha)	Area (%)
Forest	178.8	11.2
Rivers	3.1	0.2
Roads	23.5	1.5
Building	0.4	0.0
Potential reforestation	1,397.50	87.2

TOTAL	**1,603.30**	**100**

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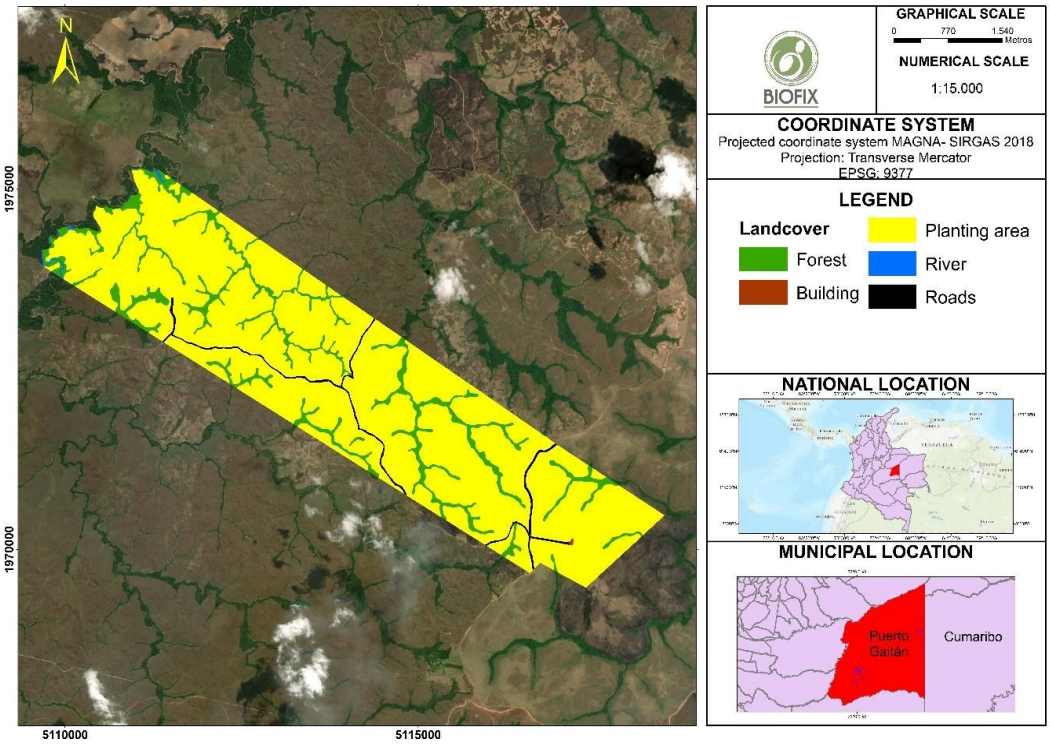
Figure 4. Types of cover present on La Fortuna property



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- **La Carolina Property**

La Carolina property has a total area of 2,535 hectares, of which 2,176 hectares have potential for forest reforestation, as shown below:

Table 5. La Carolina property characterization coverages

Coverage type	Area (ha)	Area (%)
Forest	319.2	12.6
Plantation	0.2	0.0
Building	0.3	0.0
Rivers	12.6	0.5
Secondary vegetation	2.8	0.1
Roads	23.7	0.9
Potential reforestation	2,176.6	85.8
TOTAL	**2,535.4**	**100.0**

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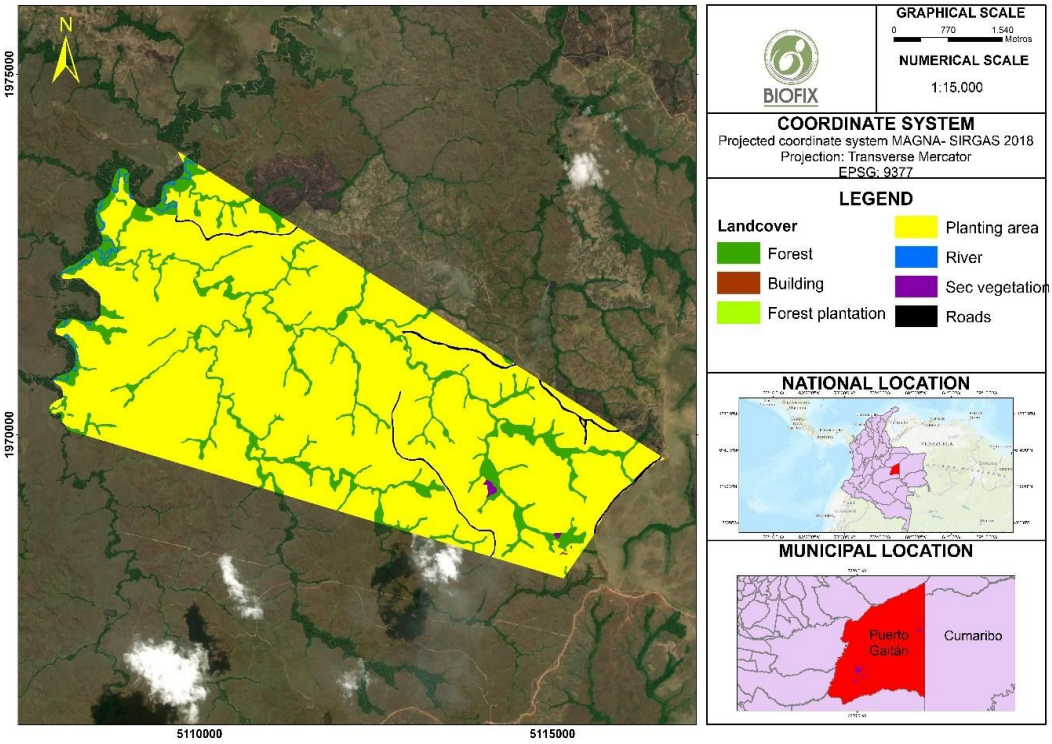
Figure 5. Types of cover present on La Carolina property



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- **San Andres property**

San Andres property has a total area of 1,470 hectares, of which 876 hectares have potential for forest reforestation, as shown below:

Table 6. San Andres property characterization coverages

Coverage type	Area (ha)	Area (%)
Forest	107.3	7.3
Plantation	374.4	25.5
Building	0.6	0.0
Rivers	2.7	0.2
Grassland	23.7	1.6
Roads	77	5.2
Water bodies	8.1	0.6
Potential reforestation	876.3	59.6
TOTAL	**1,470.1**	**100**

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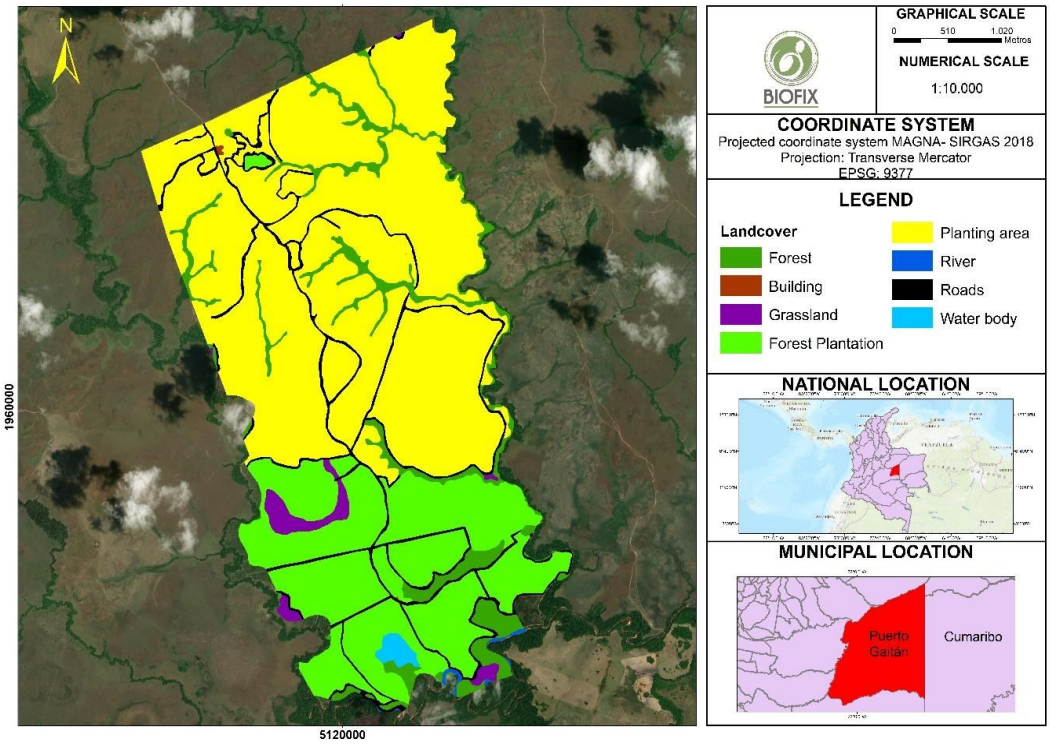
Figure 6. Types of cover present in San Andres property



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- **Villa Claudia property**

Villa Claudia property has a total area of 1,359 hectares, of which 591 hectares have potential for forest reforestation, as shown below:

Table 7. Villa Claudia property characterization coverages

Coverage type	Area (ha)	Area (%)
Forest	203.1	14.9
Plantation	408.9	30.1
Building	0.2	0.0
Rivers	0.7	0.1
Grassland	54.0	4.0
Roads	100.1	7.4
Water bodies	0.8	0.1
Potential reforestation	592.0	43.5
TOTAL	**1,359.6**	**100**

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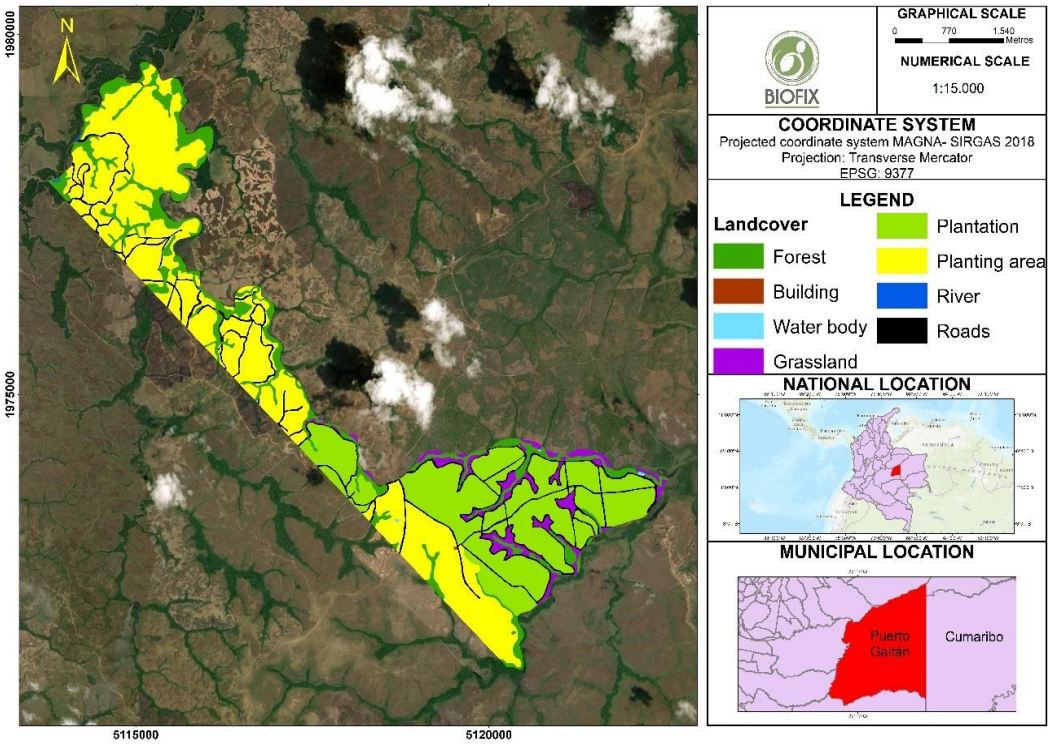
Figure 7. Types of cover present on Villa Claudia property



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- **Buenos Aires property**

Buenos Aires property has a total area of 1,651 hectares, of which 1,559 hectares have potential for forest reforestation, as shown below:

Table 8. Buenos Aires property characterization coverages

Coverage type	Area (ha)	Area (%)
Forest	61.1	3.7
Secondary vegetation	2.1	0.1
Roads	21.4	1.3
Water bodies	7.1	0.4
Potential reforestation	1,559.8	94.4
TOTAL	**1,651.5**	**100**

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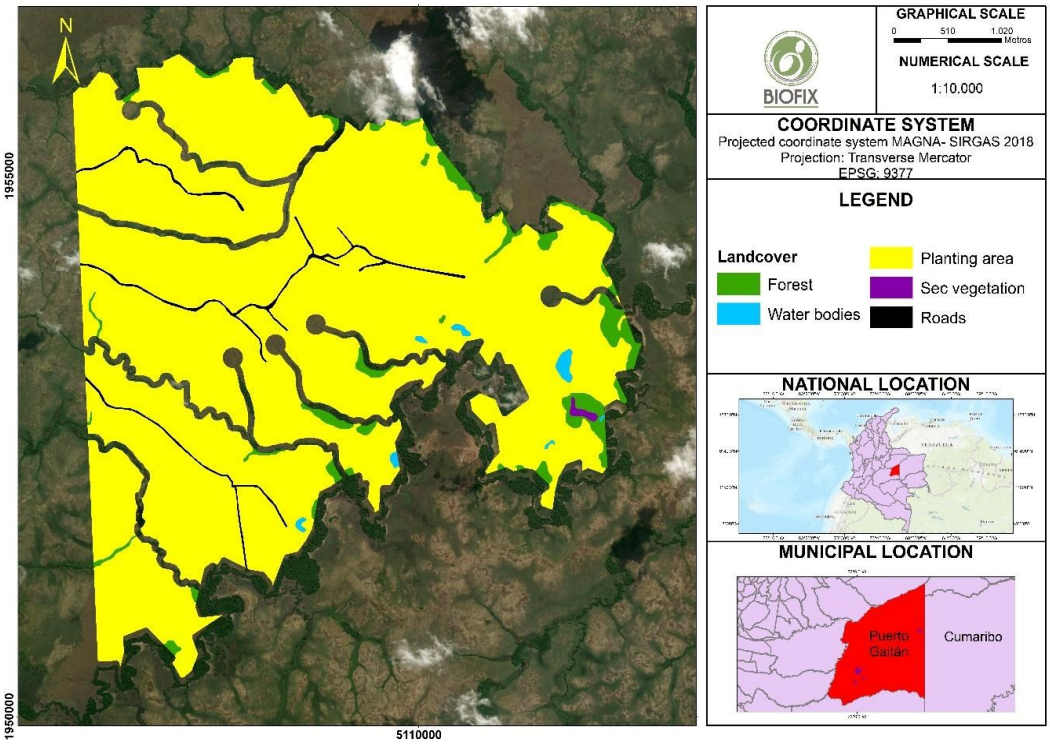
Figure 8. Types of cover present on Buenos Aires property



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- **San Miguel property**

San Miguel property has a total area of 2,321 hectares, of which 1,497 hectares have potential for forest reforestation, as shown below:

Table 9. San Miguel property characterization coverages

Coverage type	Area (ha)	Area (%)
Forest	790.3	34.0
Grassland	19.5	0.8
Rivers	3.4	0.1
Secondary vegetation	2.3	0.1
Roads	5.3	0.2
Water bodies	3.3	0.1
Potential reforestation	1,497.6	64.5
TOTAL	**2,321.7**	**100**

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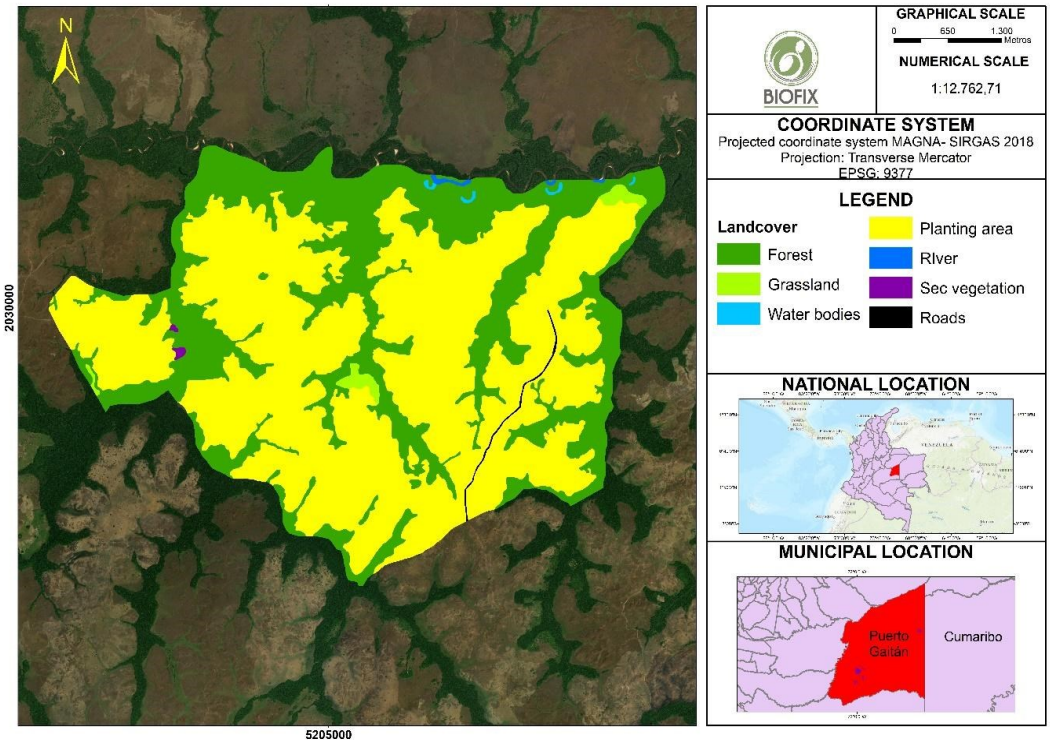
Figure 9. Types of cover present on San Miguel property



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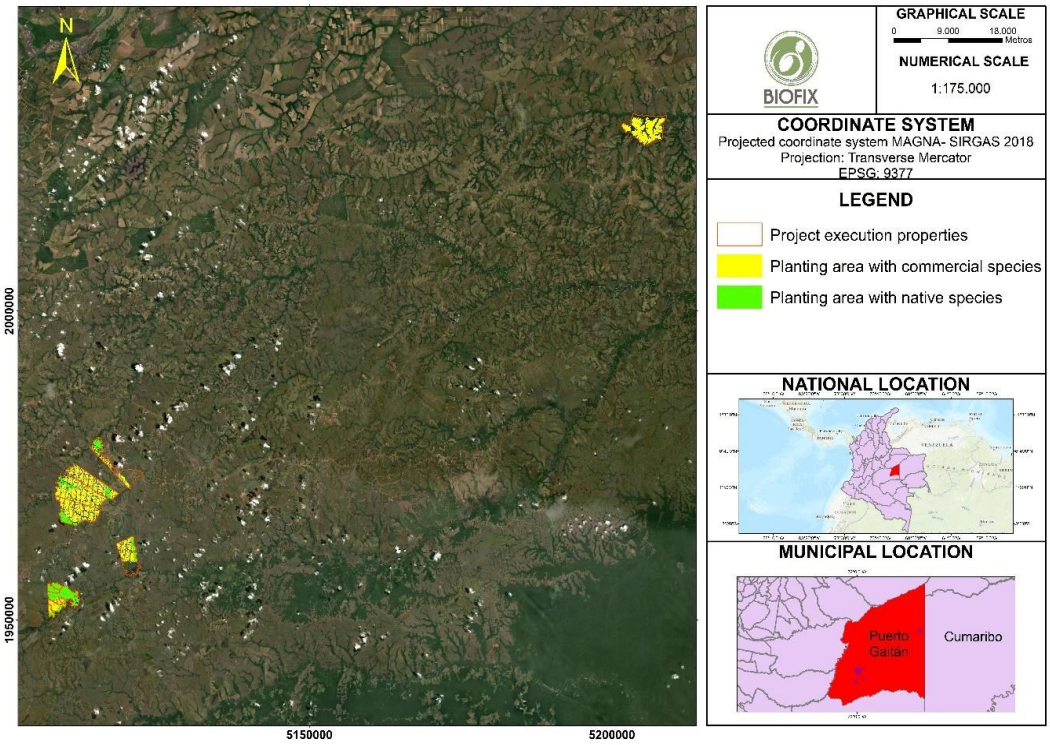
The complete analysis of the information, including the exclusion of areas related to the establishment of roads, indicates that the potential area for the implementation of the forestry project is **8,441** hectares. The following is the proposed distribution of eligible areas for non-natives and native species for the seven properties considered:

Figure 10. Distribution of eligible areas for non-natives and native species



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Considering the limitations established for the properties with the initial potential planting areas, the following adjusted results are obtained, totaling 8,441 hectares for carrying out the reforestation processes.

Table 10. Referencing of selected sites for the CDR Orinoquía Project

Property	Planting area with non-natives sp (ha)	Planting area with native sp (ha)
Arizona	1,100	273
La Carolina	1,476	250
La Fortuna	949	156
Villa Claudia	259	213
San Andrés	589	120
Buenos aires	342	1,217
San Miguel	1,495	2
Total	**8,441**	

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According to the cartographic analysis of the properties included in the project, the analyses corresponding to the soil types identified (Figure 11) and the types of cover present (Figure 12) were carried out.

Figure 11. Soil types present in the project area

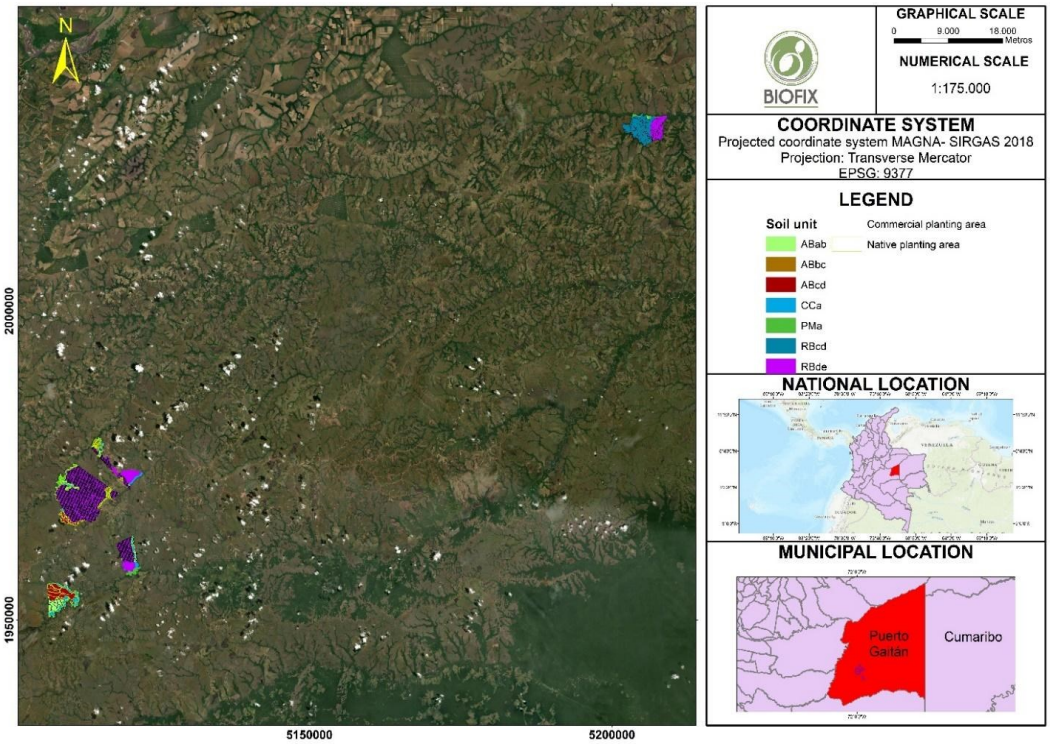

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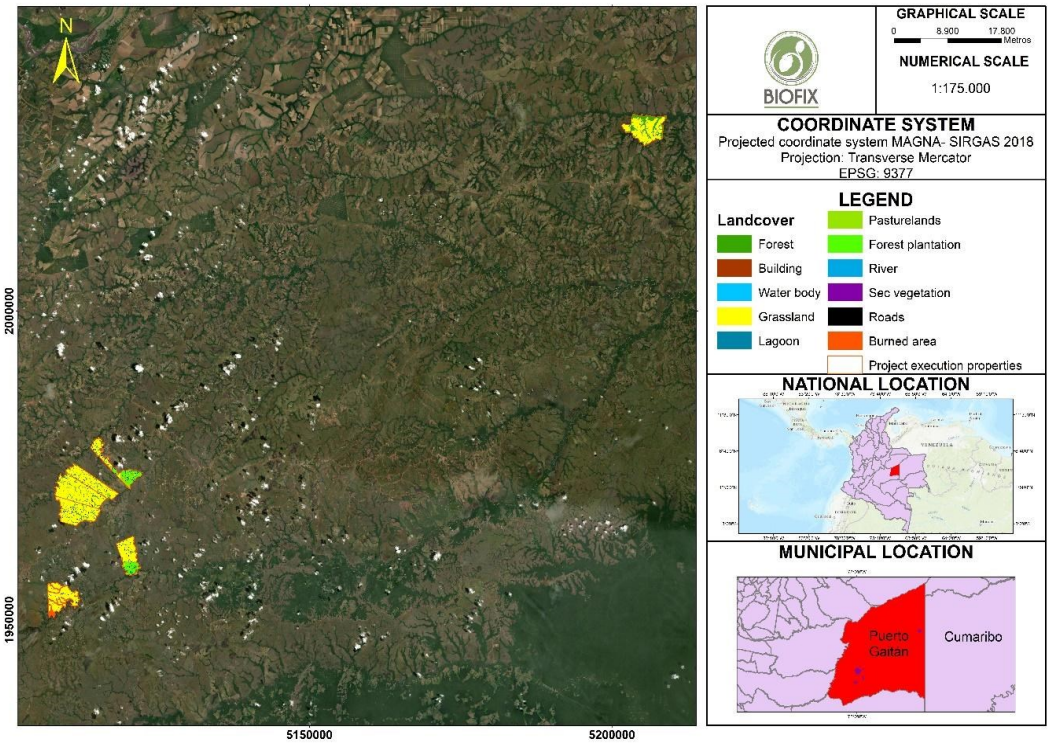
Figure 12. Types of coverage present in the project area



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In summary:

Table 11. Project characterization coverages.

Coverage type	Area (ha)	Area (%)
Forest	1,906.9	14.7
Plantation	783.5	6.1
Building	1.5	0.0
Rivers	22.7	0.2
Grassland	9,652.6	74.6
Roads	301.8	2.3
Water bodies	7.8	0.1
Lagoon	11.5	0.1
Secondary vegetation	8.8	0.1
Pasturelands	167.7	1.3
Burned areas	78.3	0.6
TOTAL	**1,2943.1**	**100.0**

Prepared by: Biofix Consultoría S.A.S BIC

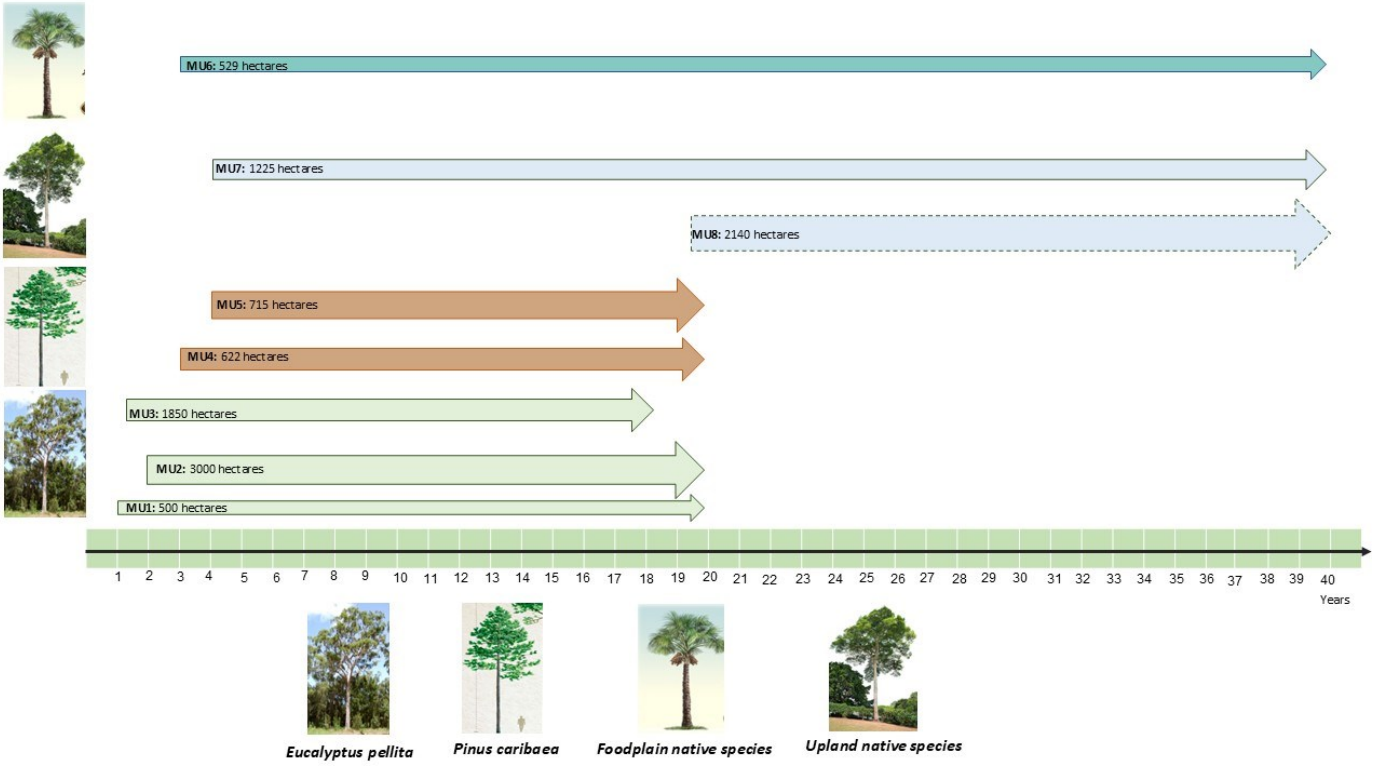
A.3 Technologies and/or measures

>> The CDR ORINOQUÍA project will implement a series of measures and technologies designed to achieve its objectives of climate mitigation and sustainable development through reforestation. The core strategy focuses on establishing and managing forest plantations in degraded savannah areas, thereby sequestering carbon and enhancing the local ecosystem.

The main characteristics of the project forest plantation are the following:

- Main planting design comprises 8 tree species: non-native species (*Eucalyptus pellita* and *Pinus caribaea*) and native species from non-flood zones (*Cassia grandis*, *Hymenaea courbaril*, *Caraipa llanorum, Simarouba amara, Albizia saman* and *Anadenanthera peregrina*) and native species from flooded areas like gallery forests and moriche forests (*Mauritia flexuosa*, *Euterpe precatoria* and *Manilkara zapota*).
- The project design includes planting the species in different areas and years. Therefore, eight Modelling Units were defined.
- The planting density for commercial species is 1,100 trees per hectare, with selective harvesting.
- In 2020, a selective harvest of *Eucalyptus* trees was conducted. These areas were subsequently replanted with native species adapted to non-flooded conditions.

Figure 13. CDR Orinoquía Modelling Units



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i. Facilities, systems, and equipment

The project's implementation plan includes the following facilities and equipment:

- **Permanent Forest Nursery:** A dedicated nursery will be constructed with a total area of 1.5 hectares. This facility will include a greenhouse for germination and a hardening area for seedlings before planting. The nursery is designed to produce over 3 million plants annually.
- **Mechanized Equipment:** The project will use agricultural and forestry tractors with powers ranging from 70 to 140 hp. These will be equipped with rakes, harrows, and subsoiling attachments to prepare the soil and create planting furrows. Handheld tools like machetes, pruning shears, and measuring tapes will also be used.
- **Monitoring and Surveying Tools:** The project will employ Global Positioning System (GPS) units and drones for accurate land surveying and for monitoring vegetation cover and project boundaries. Instruments such as hypsometers and

diameter tapes will be used for dendrometric measurements in the monitoring plots.

- **Infrastructure:** An internal road network will be established within the plantations to facilitate project activities, including the transport of materials and personnel. These roads will have varying widths depending on their purpose (e.g., 30m for primary roads, 12m for secondary roads, and 6m for tertiary roads).

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ii. Age and average lifespan of the equipment

The age and average lifespan of equipment such as tractors and drones will adhere to industry standards and manufacturer specifications. The project's longevity is designed to outlast the operational lifespan of any individual piece of equipment, ensuring that replacements and maintenance are factored into the long-term project plan.

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iii. Purpose and contribution to GHG reduction and SDGs

The technologies and measures are integral to achieving the project's core purpose of climate mitigation and sustainable development. The reforestation of 8,441 hectares of degraded land is the primary mechanism for **sequestering atmospheric carbon dioxide**, which directly contributes to **SDG 13 (Climate Action)**.

The selected species, both native and non-native, are adapted to the region's harsh soil conditions, ensuring long-term success of the plantations as a carbon sink. The project also supports several other SDGs by:

- **SDG 8 (Decent Work and Economic Growth):** Generating employment opportunities for local communities through nursery operation, planting, and maintenance activities.
- **SDG 15 (Life on Terrestrial Ecosystems):** Restoring degraded land, enhancing biodiversity, and creating biological corridors that connect existing native forest patches.
- **SDG 5 (Gender Equality):** The project aims to ensure that women have equal opportunities for employment and leadership. The project tracking the number and percentage of women participating in project committees, training programs, and formal employment.

A.4 Scale of the project

>>The project is classified as **Large Scale**. The total estimated GHG emission reductions over a 30-year crediting period is 2,603,894 tCO_2e, with an average annual reduction of 83,768 tCO_2e. This amount is above the 60,000 tCO_2e/year threshold that would classify it as a Large project.

A.5 Funding sources of project

>>The project does not receive any public funding. The project is privately funded by Biofix Consultoría S.A.S BIC, which acts as the project developer and funder. As this is a regular project, an Official Development Assistance (ODA) declaration is not required.

SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

B.1. Reference of approved methodology (ies)

>> The project will apply the Gold Standard-approved *Methodology for Afforestation/Reforestation (A/R) GHGs Emission Reduction & Sequestration* - SDG 13 Version 2.1, to quantify and certify emissions sequestration impacts.

- **i. Selected GHG baseline and monitoring methodologies:** The project will use the **A/R Methodology (Version 2.1)**.
- **ii. Any methodologies or methodological tools to which the selected methodologies refer:** The A/R Methodology refers to and requires the use of the **Land Use and Forests Activity Requirements (Version 2.1)** and the **AFOLU Non-Permanence Risk Tool (Version 4.2)**.
- **iii. Any selected standardized baselines:** No standardized baselines are applicable to this project.
- **iv. Any mandatory GS Guidelines:** The project will adhere to the mandatory Gold Standard guidelines, including the **Principles and Requirements, Safeguard Principles and Requirements, Stakeholder Consultation and Engagement Requirements, AR-LUF Activity Requirements.**
- **v. Confirmation:** The project will apply the latest versions of the A/R Methodology and all referenced tools and guidelines in effect at the time of the project's first submission to the Gold Standard.

B.2. Applicability of methodology (ies)

>> The project will apply the Gold Standard-approved *Methodology for Afforestation/Reforestation (A/R) GHGs Emission Reduction & Sequestration* - SDG 13 Version 2.1, to quantify and certify emissions sequestration impacts.

The project meets all applicability conditions of the selected methodology, which is designed for projects that include planting trees on land that does not meet the definition of a forest at planting start. The CDR ORINOQUÍA project involves establishing new forest cover on degraded savannah grasslands.

- **i. Applicability Conditions:** The project involves planting trees in a large-scale A/R activity in Colombia, a Non-Annex 1 country, on degraded savannah land. This directly aligns with the methodology's scope. The project activity strictly adheres to the applicability conditions set forth in the *Gold Standard Methodology for GHG Emission Reduction and Sequestration*. The fulfillment of these conditions is detailed below:

CONDITION	PROJECT STATUS & EVIDENCE
a. Silvicultural Systems: The methodology allows for (i) Conservation forests, (ii) Selective harvesting, or (iii) Rotation forestry	Compliant (i). The CDR ORINOQUÍA project is designed as a Conservation Forest. The primary objective is long-term carbon sequestration and biodiversity restoration in the Orinoquía region.
b. Integration of Agriculture/Pasture: Projects may include agroforestry or silvopasture activities.	Compliant. The project is strictly an ARR activity. It does not include agroforestry or silvopastoral components within the 8,441-hectare boundary. Any previous grazing activities are displaced outside the project area.
c. Prohibition of Wetlands: Project areas shall not be located on wetlands.	Compliant. A geospatial analysis using the national wetland inventory (Humboldt Institute) and field soil surveys confirms that the project's 8,441 hectares are located on high-altitude savannas characterized by well-drained soils, not categorized as wetlands.
d. Organic Soils Management: Organic soils shall not be drained or irrigated (except for initial planting).	Compliant. Soil profile analyses (ED-01 to ED-07) indicate the presence of Mineral Soils (Oxisols and Ultisols) with low organic matter content. No organic soils (Histosols) are present; therefore, no drainage or prohibited irrigation systems are required or implemented.
e. Soil Disturbance on Organic Soils: Disturbance must be limited to less than 10% of the certified area if organic soils are present.	Not Applicable. As established in condition (d), the project area consists of mineral soils. Regardless, mechanical preparation (subsoiling) is localized to the planting lines to minimize overall soil disturbance and protect the soil structure.
f. Baseline Scenario Stability: The baseline scenario must not show a significant increase in biomass ('tree' and 'non-tree').	Compliant. The baseline scenario consists of degraded natural grasslands and introduced pastures (*Brachiaria spp.*). Historical imagery from the last 20 years shows a stable state of low-biomass herbaceous cover due to soil acidity and periodic burning. No natural regeneration of woody biomass is expected without project intervention.

- **ii. Additional GS Criteria:** The project will not be using a UNFCCC methodology, so additional GS criteria for those methodologies do not apply. Instead, it is using

a Gold Standard-approved methodology that has already been verified for alignment with GS4GG requirements.

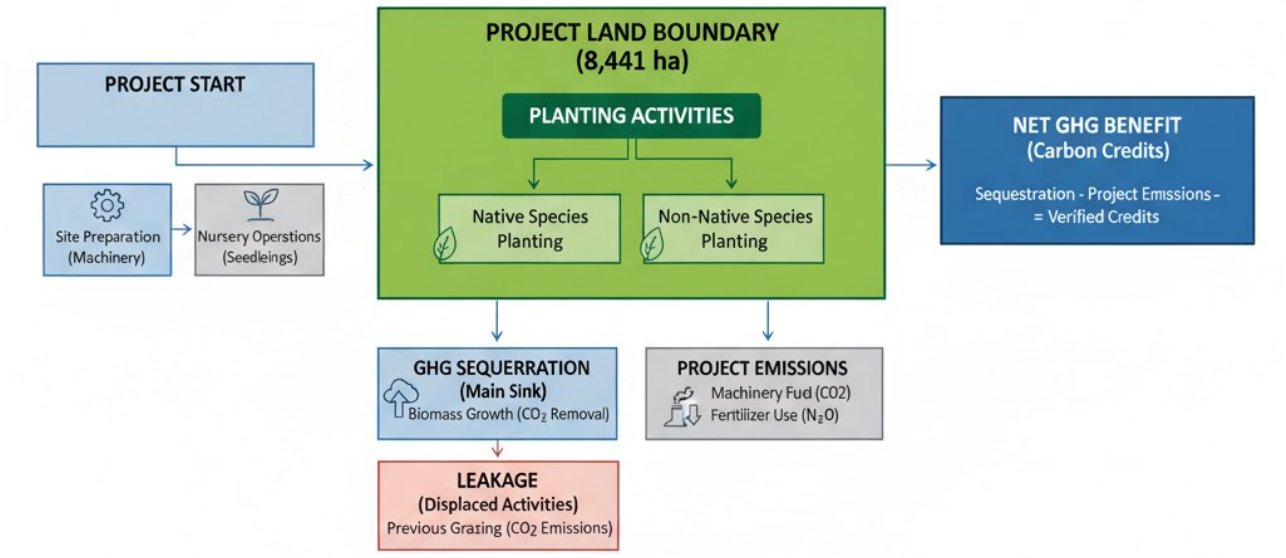
B.3. Project boundary

>> The project boundary encompasses all land parcels where the afforestation, reforestation, and revegetation (ARR) activities will take place, totaling 8,441 hectares across seven distinct properties. This physical delineation ensures all project-related GHG sources, sinks, and reservoirs are accounted for.

- **i. Project Boundary Flow Diagram:**

The diagram illustrates the flow of activities and their GHG impacts. The project starts with **site preparation** and **nursery operations**, leading to **planting activities** on the project land. These activities contribute to **GHG sequestration**, primarily through biomass growth. The project also accounts for **emissions from machinery and fertilizer use**, as well as potential **leakage** from displaced activities.

Figure 14. CDR Orinoquía Boundary Flow Diagram



Prepared by: Biofix Consultoría S.A.S BIC

- **ii. GHG Sources and Sinks within the Project Boundary:** In accordance with the A/R Methodology, the project boundary includes the following GHG sources and sinks:

- **GHG Sinks:** The primary sink is **GHG sequestration** due to the growth of tree biomass.
- **GHG Sources:** Emissions from the consumption of fossil fuels for project activities (e.g., machinery for site preparation, transport) and N_2O emissions from nitrogen fertilizer application are included.
- **Carbon Pools:** The project will account for carbon stock changes in **aboveground woody biomass**, **belowground woody biomass**, and **Soil Organic Carbon (SOC)**.

	Source	GHGs	Included?	Justification/Explanation
Baseline scenario	Burning of biomass	CO_2	**No**	The baseline is characterized as degraded savannah land with no significant woody biomass, making emissions from burning negligible.
		CH_4	**No**	The baseline is characterized as degraded savannah land with no significant woody biomass, making emissions from burning negligible
		N_2O	**No**	The baseline is characterized as degraded savannah land with no significant woody biomass, making emissions from burning negligible
		Other	**No**	The baseline is characterized as degraded savannah land with no significant woody biomass, making emissions from burning negligible
	Emissions from nitrogen fertilizer	CO_2	**No**	The baseline scenario does not involve fertilizer application on the project area.
		CH_4	**No**	The baseline scenario does not involve fertilizer application on the project area.
		N_2O	**No**	The baseline scenario does not involve fertilizer application on the project area.
		Other	**No**	The baseline scenario does not involve fertilizer application on the project area.
	Burning of fossil fuels	CO_2	**No**	Use of fossil fuels in baseline scenario is deemed insignificant.
		CH_4	**No**	Use of fossil fuels in baseline scenario is deemed insignificant.
		N_2O	**No**	Use of fossil fuels in baseline scenario is deemed insignificant.
	Tree biomass-aboveground	CO_2	**Yes**	Mandatory

	Tree biomass-belowground	CO_2	**Yes**	Mandatory
	Non Tree biomass-aboveground	CO_2	**Yes**	Mandatory
	Non Tree biomass-aboveground	CO_2	**Yes**	Mandatory
	Soil	CO_2	**No**	Optional. Not considered
	Harvested wood (timber & energy wood)	CO_2	**No**	Excluded by default
	Litter & lying dead wood	CO_2	**No**	Excluded by default
Project scenario	Fossil fuel consumption	CO_2	**Yes**	Emissions from machinery and transportation are accounted for as they are a result of project activities.
		CH_4	**No**	Their quantities are considered negligible and insignificant compared to the overall carbon sequestration achieved by the project.
		N_2O	**No**	Their quantities are considered negligible and insignificant compared to the overall carbon sequestration achieved by the project.
		Other	**No**	Their quantities are considered negligible and insignificant compared to the overall carbon sequestration achieved by the project.
	Fertilizer application	CO_2	**No**	CO_2 emissions from fertilizer application are not included because the carbon in the fertilizer is generally considered to be of a fossil origin. The accounting for these emissions is not part of standard methodologies for this type of project, which focus on direct emissions from operational activities.
		CH_4	**No**	The project is located in non-flooded savannah areas, so the anaerobic conditions necessary for significant CH_4 production are not present. The primary source of CH_4 emissions from agriculture comes from flooded rice paddies or livestock, neither of which are relevant to the project's reforestation activities.
		N_2O	**Yes**	N_2O emissions from nitrogen fertilizer application are accounted for as required by the methodology.
		Other	**No**	-
	Leakage Displaced activities	CO_2	**Yes**	Leakages from the displacement of previous grazing activities will be accounted.
		CH_4	**No**	The project's afforestation activities replace low-impact grazing practices on savannah land, and the conversion to

				forest does not create conditions for significant CH_4 or N_2O emissions.
		N_2O	**No**	The project's afforestation activities replace low-impact grazing practices on savannah land, and the conversion to forest does not create conditions for significant CH_4 or N_2O emissions.
	Tree biomass-aboveground	CO_2	**Yes**	Mandatory
	Tree biomass-belowground	CO_2	**Yes**	Mandatory
	Non Tree biomass-aboveground	CO_2	**No**	Excluded by default
	Non Tree biomass-aboveground	CO_2	**No**	Excluded by default
	Soil	CO_2	**Yes**	Optional. Considered significant
	Harvested wood (timber & energy wood)	CO_2	**No**	Excluded by default
	Litter & lying dead wood	CO_2	**No**	Excluded by default

B.4. Establishment and description of baseline scenario

>> The baseline scenario for the project is the continuation of the current land use: degraded savannah grasslands. This land is characterized by low productivity, high acidity, and a lack of significant woody biomass. In the absence of the project, this land would be expected to remain in a degraded state or continue its current land-use practices, which include low-intensity grazing and periodic burns.

The baseline scenario is established in accordance with the selected A/R methodology. The methodology requires projects to identify the most plausible alternative land-use scenario by considering historical and current land-use patterns, as well as regulatory and policy frameworks. The project area has not been classified as a forest for over 10 years, which supports the baseline assumption of non-forest land.

Furthermore, the baseline scenario is in compliance with GS4GG Principle 1, which requires that projects adhere to all relevant applicable legislation. A review of Colombian law and policy confirmed that there are no national or regional legal mandates requiring afforestation or reforestation on this type of land. Therefore, the conversion of this land to forest is considered to be beyond the legal and regulatory requirements, establishing a legitimate and business-as-usual baseline.

A suppressed demand baseline is not used for this large-scale project, and no products or impact statements are sold as assets that would contradict the baseline definition. The baseline is conservatively assumed to have zero sequestration potential, as the existing biomass is considered negligible, ensuring that the project's carbon benefits are not overestimated.

B.5. Demonstration of additionality

The project's additionality is demonstrated by showing that the proposed afforestation, reforestation, and revegetation activities would not have occurred without the financial incentives provided by carbon credit sales.

Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	Gold Standard Land Use & Forests Activity Requirements (Version 2.1).
Describe how the proposed project meets the criteria for deemed additionality.	The project meets the regulatory surplus criterion, as it is located in Colombia, a Non-Annex I country, and there are no national or regional laws that mandate the implementation of these reforestation activities.
Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	UNFCCC-approved Additionality Tool
Describe how the proposed project meets the criteria for deemed additionality.	The project demonstrates financial additionality by proving that the financial returns from the reforestation activities alone are insufficient to justify the investment without the revenue from carbon credits. The project will apply the UNFCCC tool to document this analysis.
Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	Gold Standard-approved Additionality Tool.

Describe how the proposed project meets the criteria for deemed additionality.	The project will utilize this tool to evaluate financial and other barriers, such as a lack of technology or investment in the region, that prevent the project from being implemented under a business-as-usual scenario.

The project meets the **regulatory surplus** criterion, as it is located in Colombia, a Non-Annex I country, and there are no national or regional laws that mandate the implementation of these reforestation activities. The project's activities are voluntary and go beyond business-as-usual practices in the region, which typically involve low-intensity cattle grazing and are characterized by land degradation.

Furthermore, the project demonstrates additionality through a **financial analysis** to prove that the project would not have been financially viable without the additional revenue from carbon credits. The project developer, Biofix Consultoría S.A.S BIC, has a clear financial structure that depends on this revenue stream to guarantee the project's long-term sustainability and to justify the significant upfront investment required for nursery establishment, land preparation, and planting.

The project is used to an approved additionality tool, such as the UNFCCC-approved additionality tool, which is permitted for use under the Gold Standard to evaluate the project's financial and implementation barriers. This comprehensive approach ensures that the project's carbon benefits are truly additional and would not have been generated in the absence of the project.

A/R Methodological tool "*Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities*" (Version 01).

STEP 0. Preliminary screening based on the starting date of the A/R project activity.

The project has an expected start date of 15-05-2026, while the Time of First Submission Date occurred in January 2026. Since the application for certification precedes the start of physical project implementation, the project is categorized under the "*Regular*" project cycle. This preemptive submission eliminates the need for the complex "*prior consideration*" analysis typically required for retroactive projects, confirming eligibility under both CDM and Gold Standard requirements.

- The evidence that that supports the starting date of the A/R CDM project activity is the "*Project feasibility field report*" which details the traceability of the project, beginning with the initial discussions between the parties.
- The evidence that the incentive from the planned sale of CERs was seriously considered in the decision to proceed with the project activity are the Confidentiality agreement with each owner, and the Property Titles Deed confirming the availability of land for the establishment of the project.

STEP 1. Identification of alternative scenarios

The objective here is to identify realistic and plausible land-use scenarios that could reasonably have taken place in the absence of the proposed ARR project.

Sub-step 1a. Identify credible alternative land use scenarios to the proposed CDM project activity.

Three credible alternatives were identified for the 8,441-hectare area:

1. **AS1. Continuation of Pre-Project Land Use (Baseline):** This involves maintaining the current state of degraded savannah and low-intensity grazing. This scenario is highly plausible given the historical land-use patterns, current land cover (74.6% grasslands), and the minimal requirement for continuing operation.

2. **AS2. Forestation without CDM/GS Registration (Business-as-Usual Forestry):** This entails the establishment of commercial timber plantations (likely pure stands of *Pinus* or *Eucalyptus*) driven exclusively by anticipated market profitability. This is plausible because these species are locally utilized and receive state incentives (e.g., Forestry Incentive Certificates - FIC) in Colombia.

3. **AS3. Conversion to Intensive Commercial Agriculture:** This involves transforming the large land area into high-intensity agricultural or high-density livestock operations. This is plausible based on the scale of the landholdings and the agricultural suitability of the surrounding Meta department.

Sub-step 1b. Consistency of credible alternative land use scenarios with enforced mandatory applicable laws and regulations.

All identified scenarios must be checked against mandatory, enforced legal and regulatory frameworks. Colombia is classified as a UNFCCC Non-Annex 1 country and maintains environmental laws that encourage, but do not legally mandate, ARR activities.

The country's commitment to climate action, including the carbon tax mechanism, creates financial incentives but does not impose compulsory afforestation. The project's implementation is aligned with Colombian laws pertaining to sustainable forest management and the protection of riparian ecosystems. As such, no scenario is legally prohibited, and all three alternatives (**AS1**, **AS2**, and **AS3**) remain plausible pending the subsequent economic and barrier analysis.

Key mandatory regulations considered include:

- *National Environmental Management:* Established by **Law 99 of 1993** (Environmental Code), which created the Ministry of Environment and Sustainable Development (MADS) and the National Environmental System

(SINA). This law mandates the protection, conservation, and sustainable use of natural resources.

- *Forestry and Land Use:* Governed by **Law 2 of 1959** (Forest Law) and reinforced by Law 99 of 1993, focusing on forest use regulation, deforestation control, and the promotion of sustainable logging practices. Land use planning is further controlled by laws like **Law 388 of 1997**.
- *Climate/ARR Activities:* While Colombia has national commitments to climate action (e.g., Law 2169 of 2021) and mechanisms like the carbon tax and the Forestry Incentive Certificate (FIC) to incentivize Afforestation, Reforestation, and Revegetation (ARR), these policies do not legally mandate ARR activities. ARR activities are therefore encouraged but not compulsory.

There are also some requirements that considered the management practice like:

- **Law 1377 of 2010:** Establishing the regime for forest plantations for commercial purposes and agroforestry systems.
- **Law 2173 of 2021:** This law promotes ecological restoration through the planting of trees and the creation of forests, with a focus on the environmental responsibility of companies.

These laws seek to promote the sustainable development of the forestry sector, encouraging commercial plantations and establishing a regime for their registration and mobilization in Colombia, with the objective of complementing production from natural forests.

The three alternatives identified in *Sub-step 1a* were assessed for consistency with mandatory legislation. Based on this, none of the identified alternative scenarios are mandated or prohibited by mandatory, enforced legislation.

STEP 2. Barrier analysis

Sub-step 2a. Identification of barriers that would prevent the implementation of at least one alternative land use scenarios.

B1. Technological and Ecological Barriers

The inherent quality of the project site presents fundamental ecological constraints that preclude profitable non-carbon investment. Laboratory analysis conducted on soil samples reveals severe degradation, characterized by deficient levels of vital nutrients (Potassium, Calcium, Magnesium, Phosphorus, and Nitrogen). Furthermore, the soils exhibit high aluminum concentrations, ranging from 0.3 to 3.49 meq/100cc, and strong acidity (pH below 5).

Overcoming these deficiencies is not optional; it necessitates a specialized and mandatory intervention strategy. The project design explicitly includes the application

of phosphoric rock as a necessary amendment during site preparation, coupled with complex, long-term, multi-year fertilization schemes. This high dependency on costly chemical and biological inputs transforms the ARR activity from a conventional land-use endeavor into a specialized bio-engineering project with significantly higher upfront and operational expenditures.

Consequently, the high costs and risks associated with continuous, large-scale ecological remediation on 8,441 hectares severely undermine the financial viability of both commercial forestry (**AS2**) and intensive agriculture (**AS3**), confirming a powerful technological barrier that discourages standard project developers.

B2. Natural Risk Barrier

The project area faces significant risks from natural events, specifically forest fires, which are endemic to the region due to marked dry seasons and anthropogenic activities identified as "*uncontrollable burns*". This fire threat is acknowledged as a "*direct threat to the permanence of the forest cover in the long term*". Mitigating this persistent and high-level risk requires a dedicated, cost-intensive infrastructure commitment that standard commercial operations typically resist. The project mandates the establishment of extensive firebreak strips (25 to 30 meters wide) and internal buffers (15 meters) across the vast area.

This structural investment, along with the continuous operational expense of employing forest custodians for fire monitoring, represents a significant non-recoverable operational cost over the 40-year lifespan. For BAU forestry (**AS2**), minimizing recurrent fixed operational costs is paramount. This unavoidable cost burden, when combined with the low natural productivity (**B1**), confirms a substantial barrier to unsubsidized investment. Carbon finance is required not just for returns, but to cover the cost of managing the fundamental risks inherent in the location.

B3. Institutional and Financial Barriers

The implementation requires mobilizing significant capital for an operation spanning 8,441 hectares over 40 years in an economically challenged region. The complexity and high risk (**B1** and **B2**) associated with this specific site exceed the risk tolerance of conventional commercial debt and equity providers in the area.

The project relies on a complex institutional structure, involving private landholders, Coserveco S.A.S. as the forestry implementer, and Biofix Consultoría S.A.S BIC as the developer and allied funder responsible for commercializing Verified Carbon Units (VCUs). This indicates that the investment is inherently contingent upon the carbon finance mechanism. Carbon revenue acts as the critical non-commercial anchor, providing the necessary risk premium or return stabilization required to attract private risk capital where traditional financial markets are unwilling or unable to operate due to the combination of high ecological (**B1**) and natural (**B2**) risks.

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

The outcome of the robust barrier analysis successfully eliminates the profitable alternatives, leaving only the baseline scenario as the plausible alternative in the absence of the project intervention.

- **Elimination of AS3 (Intensive Commercial Agriculture):** This scenario is eliminated primarily by the technological barrier (**B1**). The persistent and severe soil chemical deficiencies (acidity, aluminum toxicity, low fertility) render the conversion to high-yield commercial agriculture commercially infeasible without ongoing, massive, non-recoverable capital expenditure for remediation.
- **Elimination of AS2 (Business-as-Usual Forestry):** This scenario is eliminated by the compounding effect of barriers **B1**, **B2**, and **B3**. BAU forestry cannot sustain the high initial remediation costs (**B1**), the mandatory long-term operational expenditures for fire risk mitigation (**B2**), and the inability to attract sufficient long-term non-commercial or high-risk capital (**B3**) over a multi-decade rotation cycle.

The continuation of the degraded land use (**AS1**) remains the sole viable scenario in the absence of carbon finance.

Table 12. Detailed Barrier Analysis and Scenario Elimination (Step 2 Outcome)

Scenario ID Applicable	Applicable Barrier(s)	Barrier Severity Rationale	Elimination Justification	Status
AS1 (Baseline)	**B3** (Institutional/Social)	Baseline persistence is explained by barriers preventing alternatives, requiring minimal investment.	Not eliminated; represents BAU status quo.	RETAINED
AS2 (BAU Forestry)	**B1**, **B2**, **B3**	Combined high input/OPEX costs due to severe soil defects and mandatory fire risk mitigation exceed projected timber IRR. Investment market rejection.	Fails commercial feasibility threshold due to compounding risks and required mitigation costs.	ELIMINATED
AS3 (Intensive	**B1**	Chronic soil acidity/aluminum	Technological /Economicall	ELIMINATED

Agriculture)		concentration prohibits profitable high-intensity commodity production.	y infeasible given site constraints.	

Sub-step 2c. Determination of baseline scenario (if allowed by the barrier analysis).

Decision tree:

Is forestation without being registered as an A/R CDM project activity included in the list of land use scenarios that are not prevented by any barrier?

Answer: **YES**

→ If yes, then:

Does the list contain only one land use scenario?

Answer: **NO**

→ If yes, then the proposed A/R CDM project activity is not additional.

→ If no, then continue with Step 3: Investment analysis.

→ If no, then:

Does the list contain only one land use scenario?

Answer: **YES**

→ If yes, then the remaining land use is the baseline scenario.

Continue with Step 4: Common practice test

→ If no, then through qualitative analysis, assess the removals by sinks for each scenario and select one of the following options:

Option 1: Baseline scenario is the land use scenario that allows for the highest baseline GHG removals by sinks. Continue with Step 4: Common practice test.

Option 2: Continue with Step 3: Investment analysis.

Conclusion: **Step 4. Common practice test**

STEP 4. Common practice analysis

- Definition of Relevant Geographical Area and Project Type

The final step of the CDM additionality tool requires demonstrating that the proposed ARR activity is not considered common practice within the relevant geographical area, identified as Puerto Gaitán and the broader Meta Department.

Reforestation is present in the region, with Meta Department hosting approximately 22,750 hectares of existing plantations as of 2018, often utilizing the same non-native species (*Eucalyptus pellita* and *Pinus caribaea*) selected for the CDR ORINOQUÍA project. This superficial observation suggests a presumption of common practice that must be refuted by demonstrating fundamental differences in motivation, operational scope, and financial structure driven by the necessity of overcoming the identified barriers (**B1**, **B2**, **B3**).

- Differentiation of the Project Scenario from Common Practice

The CDR ORINOQUÍA project differentiates itself from typical BAU forestry (**AS2**) based on its unique financial architecture, technical complexity, and explicit ecological mandates. The project's financial structure is explicitly non-BAU, centered around a multi-stakeholder partnership designed to maximize carbon revenue: landowners (45%), developer (45%), and implementer (10%) share in the project profits.

This formal allocation of rights and benefits, anchored by the commercialization of VCUs, is fundamentally distinct from typical BAU plantation financing driven purely by timber market yields. Operationally, the project targets highly ecologically degraded sites characterized by severe soil acidity and nutrient depletion. Common practice generally avoids such marginal lands, which demand high initial capital expenditure for specialized chemical remediation (**B1**) and mandatory infrastructure build-out, such as the extensive firebreak networks and forest custodians required to manage the regional catastrophic risk (**B2**).

These mandatory, non-recoverable costs are not typical of low-input BAU practices and are only justified by the ancillary revenue stream from carbon credits. Furthermore, the project includes a significant non-commercial conservation component, allocating 2,231 hectares for planting native species and focusing on creating biological corridors to enhance regional biodiversity. Conventional commercial forestry (**AS2**) typically prioritizes maximizing timber yield with single-species monocultures, minimizing dedicated non-commercial conservation areas. This mandatory ecological commitment confirms that the project operates substantially beyond the prevailing definition of common practice in terms of its mandate and scope.

Table 13. Comparison of Project Scenario (**PS**) and Business-as-Usual Forestry (**AS2**)

Feature	AS2: Common Practice BAU Forestry	PS: CDR ORINOQUÍA (A/R CDM/GS Project)	Differentiation Rationale
Target Land	Sites optimized for predictable commercial yield.	Degraded Savannah, low fertility, high acidification risk.	PS requires costly ecological

			mitigation (Barrier **B1**) financed by VCUs.
Risk Management	Minimal non-mandatory fire/risk mitigation infrastructure.	Mandatory, costly firebreak network and custodian structure.	PS finances risk mitigation beyond BAU standards (Barrier **B2**).
Species Strategy	Maximized commercial species (monoculture emphasis).	Mixed strategy: commercial species + 2,231 ha native species for corridors/biodiversity.	PS includes non-commercial conservation commitment.
Primary Revenue Source	Timber/Biomass Market.	Carbon Credit Sales (VCUs) as primary revenue anchor.	PS relies on carbon mechanism to overcome **B3** Investment Barrier.

- Demonstration of Additionality

The CDR ORINOQUÍA A/R project definitively demonstrates its additionality by successfully eliminating all plausible, non-carbon-financed alternatives through the application of the CDM A/R Methodological Tool. Alternatives requiring commercial viability (**AS2** and **AS3**) were excluded due to the insurmountable compounding barriers related to high technological and ecological costs (**B1**), natural fire risk management (**B2**), and institutional investment deficits (**B3**).

The resultant determination is that the project activity is additional because the continuation of the degraded baseline (**AS1**) represents the sole viable scenario that would persist in the absence of the financial intervention and risk mitigation premium provided by the carbon crediting mechanism. This proven additionality enables the realization of substantial, measurable Sustainable Development Goals (SDGs) that would otherwise be impossible under the continued degradation of the baseline scenario:

- **SDG 15 (Life on Land):** Restoration through the reforestation of 8,441 hectares and the deliberate creation of biological corridors.
- **SDG 8 (Decent Work):** Direct generation of 75 jobs annually during the critical initial implementation phase.
- **SDG 5 (Gender Equality):** A specific commitment to achieving 50% participation of women in project activities and decision-making committees.

The project represents a fundamental transformation of land use far beyond BAU or common practice, positioning it as a verifiable, additional climate mitigation intervention.

B.5.1 Prior Consideration

>> NA

B.5.2 Ongoing Financial Need

>>NA

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the three SDGs

SUSTAINABLE DEVELOPMENT GOALS TARGETED	MOST RELEVANT SDG TARGET	SDG IMPACT INDICATOR (PROPOSED OR SDG INDICATOR)
13. Climate Action	13.2. Integrate climate change measures into national policies, strategies and planning.	GHG Removals (tCO_2e).
8. Decent Work and Economic Growth	8.5. By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.	Number of direct jobs created, and employees trained in reforestation techniques, disaggregated by gender and age.
15. Life on Terrestrial Ecosystems	15.2. By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.	Area of land reforested (ha). Survival rate of planted trees (%).
5. Gender Equality	5.5. Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.	Percentage of women participating in project activities and decision-making committees. Percentage of leadership positions held by women in the project.

B.6.1 Explanation of methodological choices/approaches for estimating the SDG Impact

>> **SDG 13: Climate Action**

The project's impact on SDG 13 is based on the indicator **GHG Emission Reductions/Removals**. This is calculated by measuring the increase in carbon stock due to afforestation and reforestation activities, compared to a baseline scenario of degraded savannah land. This estimation is based on the Gold Standard Methodology for Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration – Version 2.1.

As mentioned in sections above, the baseline scenario in the project area corresponds to degraded savannah grasslands. Therefore, the baseline GHG emissions is calculated based on biomass values cited in the literature.

SDG 8: Decent Work and Economic Growth

The project's impact on this SDG is measured by the number of direct jobs created, disaggregated by gender. The baseline situation is considered zero jobs, as the land use before the project was low intensity grazing with no formal employment. The project's impact is calculated by counting the number of people formally hired for project activities, such as nursery operations, planting, and maintenance.

Jobs Created= NProject − NBaseline

Where:

- Jobs Created is the net number of new jobs.
- NProject is the number of jobs in the project scenario.
- NBaseline is the number of jobs in the baseline scenario (estimated as zero).

SDG 15: Life on Terrestrial Ecosystems

The impact on this SDG is based on the indicator of **area of land reforested (ha)**. The baseline situation is degraded savannah land with no active reforestation. The project situation is the total area of land reforested, which is measured in hectares.

Reforested Area= AProject − ABaseline

Where:

- Reforested Area is the net area of reforested land.
- AProject is the area of land under reforestation in the project scenario.
- ABaseline is the area of reforested land in the baseline scenario (estimated as zero).

SDG 5: Gender Equality

The project's impact on this SDG is measured through a qualitative assessment of women's participation in project activities and decision-making processes. The project aims to ensure that women have equal opportunities for employment and leadership. The baseline is the traditional social context where women may be underrepresented in such roles. The project's impact is demonstrated by tracking the number and percentage of women participating in project committees, training programs, and formal employment.

B.6.2 Data and parameters fixed ex ante

SDG13

Data/parameter	Area of land to be reforested
Unit	ha
Description	Total area of the project land, which is the reforested area
Source of data	Source of data Calculated from GIS data.
Value(s) applied	8,441
Choice of data or Measurement methods and procedures	The total area was determined through a combination of GPS surveying and GIS mapping. The responsible entity is Biofix Consultoría S.A.S BIC, and the measurement was conducted during the project planning phase.
Purpose of data	Calculation of project activity, specifically for the afforestation and reforestation area, which is the basis for carbon sequestration and GHG reduction.
Additional comment	This parameter is also used for the calculation of SDG 15 (Life on Terrestrial Ecosystems) impact.

Data/parameter	Carbon fraction (CF)
Unit	tC/t d.m.
Description	Total carbon in weight per ton of tree fresh matter.
Source of data	Proyecto Biocarbono Orinoquia & IDEAM. (2021). Establecimiento de factores de emisión para plantaciones forestales de Colombia y en particular de la región Orinoquia. Colombia. Gold Standard Afforestation / Reforestation (A/R) GHG

	Emissions Reduction & Sequestration Methodology V2.1.	
Value(s) applied	*Eucalyptus pellita*: 0.391 *Pinus caribaea*: 0.461 **Native upland areas:** *Hymenaea courbaril*: 0.471 *Caraipa llanorum*: 0.530 *Cassia grandis*: 0.389 *Simarouba amara*: *Albizia saman*: *Anadenanthera peregrina*: **Foodplain native species (palms):** 0.47	
Choice of data or Measurement methods and procedures	Values established by Colombia for forest plantations in the Orinoquia region. Default values established by the Gold Standard methodology.	
Purpose of data	Calculation of project scenario.	
Additional comment	None	

Data/parameter	C_to_CO_2_factor
Unit	tCO_2/tC
Description	Factor applied to convert the tree carbon sequestered to tree CO_2e sequestered.
Source of data	IPCC 2003 Guidelines for National Greenhouse Gas Inventories. Gold Standard Afforestation / Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology V2.1.
Value(s) applied	3,667 (44/12)
Choice of data or Measurement methods and procedures	This is a fixed molecular weight ratio derived from a standard scientific calculation. The value is not measured but is a default parameter used for converting carbon (C) to carbon dioxide (CO_2).
Purpose of data	Calculation of project scenario.
Additional comment	N/A

Data/parameter	Root to shoot ratio

Unit	Ton dry matter / ton dry matter
Description	Ratio between belowground and aboveground biomass.
Source of data	Proyecto Biocarbono Orinoquia & IDEAM. (2021). Establecimiento de factores de emisión para plantaciones forestales de Colombia y en particular de la región Orinoquia. Colombia. Gold Standard Afforestation / Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology V2.1.
Value(s) applied	*Eucalyptus pellita*: 0.284 *Pinus caribaea*: 0.250 **Native upland areas:** *Hymenaea courbaril*:0.323 *Caraipa llanorum*: 0.318 *Cassia grandis*: 0.318 *Simarouba amara:* *Albizia saman:* *Anadenanthera peregrina:* **Foodplain native species (palms):** 0.2
Choice of data or Measurement methods and procedures	Value specific to the species and default values established by the Gold Standard methodology.
Purpose of data	Calculation of project scenario.
Additional comment	N/A

Data/parameter	BEF
Unit	Dimensionless
Description	Biomass expansion factor for conversion of stem biomass to above-ground tree biomass, for species *j*.
Source of data	Proyecto Biocarbono Orinoquia & IDEAM. (2021). Establecimiento de factores de emisión para plantaciones forestales de Colombia y en particular de la región Orinoquia. Colombia.
Value(s) applied	*Eucalyptus pellita*: 1.311 *Pinus caribaea*: 1.418

	Native upland areas: *Hymenaea courbaril*:1.431 *Caraipa llanorum*: 1.540 *Cassia grandis*: 1.431 *Simarouba amara:* *Albizia saman:* *Anadenanthera peregrina:*
Choice of data or Measurement methods and procedures	Default value.
Purpose of data	Calculation of project scenario.
Additional comment	N/A

Data/parameter	Wood density
Unit	tdm/m^3
Description	Wood density is the ratio of oven-dry weight of wood over its green volume.
Source of data	Proyecto Biocarbono Orinoquia & IDEAM. (2021). Establecimiento de factores de emisión para plantaciones forestales de Colombia y en particular de la región Orinoquia. Colombia.
Value(s) applied	*Eucalyptus pellita*: 0.707 *Pinus caribaea*: 0.424 **Native upland areas:** *Hymenaea courbaril*: 0.828 *Caraipa llanorum*:0.606 *Cassia grandis*: 0.690
Choice of data or Measurement methods and procedures	Specific values by species were chosen from the literature, based on their documented carbon sequestration within the project region.
Purpose of data	Calculation of baseline emissions and project emissions.
Additional comment	N/A

Data/parameter	Baseline non-tree biomass: grassland
Unit	t.m.s/ha
Description	Baseline non-tree biomass is the existing biomass in the baseline scenario: grasslands.
Source of data	Norma Técnica Colombiana NTC 6208. ICONTEC INTERNACIONAL.
Value(s) applied	12.6
Choice of data or Measurement methods and procedures	Default value.
Purpose of data	Calculation baseline scenario.
Additional comment	N/A

Data/parameter	Soil carbon stock
Unit	tCO_2/ha/year
Description	Soil carbon stock change
Source of data	The A/R Soil Carbon Tool of Gold Standard
Value(s) applied	2.93
Choice of data or Measurement methods and procedures	Tool suggested by the methodology in the absence of data for the region.
Purpose of data	Calculation of soil organic carbon project scenario.
Additional comment	N/A

Data/parameter	Fertilizer
Unit	tCO_2 per kg N
Description	Other emissions.
Source of data	Gold Standard A/R GHG emission reduction and sequestration methodology v2.0.

Value(s) applied	0.005 tCO_2 per kg N.
Choice of data or Measurement methods and procedures	N/A
Purpose of data	Calculation of project GHG emissions reductions and removals.
Additional comment	N/A

SDG8

Data/parameter	Numbers of direct jobs created
Unit	Number
Description	The annual average number of direct jobs created during first three years of the project. The annual average number of direct jobs created during the remaining 37 years of the project's life cycle.
Source of data	Project CDR Orinoquía
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	This value is an estimate based on the project's implementation plan and hiring forecast. The responsible entity is Biofix Consultoría S.A.S BIC.
Purpose of data	Calculation of SDG impact for Decent Work and Economic Growth.
Additional comment	This is an initial estimate. The actual number of jobs will be monitored and disaggregated by gender and age.

SDG15

Data/parameter	Area of land to be reforested
Unit	ha
Description	Total area of land to be reforested.
Source of data	Project CDR Orinoquía.
Value(s) applied	8,441
Choice of data or	The total area was determined through a combination of GPS

Measurement methods and procedures	surveying and GIS mapping. The responsible entity is Biofix Consultoría S.A.S BIC.
Purpose of data	Calculation of SDG impact for Life on Terrestrial Ecosystems.
Additional comment	This parameter is the same as the total project area. It is a key indicator for this SDG.

Data/parameter	Survival rate of planted trees
Unit	%
Description	Target survival rate of planted trees.
Source of data	N/A
Value(s) applied	95
Choice of data or Measurement methods and procedures	This value is a target set by the project developer. The actual survival rate will be monitored post-planting.
Purpose of data	Monitoring the success of reforestation activities.
Additional comment	N/A

SDG5

Data/parameter	Women participating
Unit	%
Description	Percentage of women in the project's activities and decision-making committees.
Source of data	Project's hiring plan.
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	The percentage will be calculated by dividing the number of women employees by the total number of employees.
Purpose of data	To demonstrate gender equality in employment opportunities.
Additional comment	N/A

Data/parameter	Women in leadership positions
Unit	%
Description	Percentage of leadership positions held by women in the project.
Source of data	Project's organizational structure and hiring plan.
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	The percentage will be calculated by dividing the number of women in leadership roles by the total number of leadership roles.
Purpose of data	To demonstrate gender equality in decision-making.
Additional comment	N/A

B.6.3 Ex ante estimation of SDG Impact

>> **SDG 13: Climate Action**

Indicator: GHG Emission Reductions (tCO_2e).

Ex ante value:

Vintage period	Estimated baseline emissions (tCO_2e)	Estimated project emissions (tCO_2e)	Estimated net benefit (tCO_2e)
2026	4,927	4,927	0
2027	4,927	2,897	-2,031
2028	4,927	1,547	-3,380
2029	4,927	57,004	52,077
2030	4,927	115,875	110,948
2031	4,927	157,911	152,984
2032	4,927	157,911	152,984
2033	4,927	157,911	152,984
2034	4,927	157,911	152,984
2035	4,927	157,911	152,984
2036	4,927	157,911	152,984
2037	4,927	157,911	152,984
2038	4,927	157,911	152,984
2039	4,927	157,911	152,984
2040	4,927	157,911	152,984
2041	4,927	157,911	152,984
2042	4,927	157,911	152,984
2043	4,927	157,911	152,984
2044	4,927	157,911	152,984
2045	4,927	157,911	152,984
2048	4,927	151,043	146,116
2049	4,927	78,403	73,476
2050	4,927	78,403	73,476
2051	4,927	78,403	73,476
2052	4,927	76,851	71,924
2053	4,927	73,258	68,331
2054	4,927	73,258	68,331
2055	4,927	73,258	68,331
2056	4,927	73,258	68,331

Total number of crediting years	103,472	2,701,955	2,596,805
Annual average over the crediting period	4,927	128,655	83,768

SDG 8 Decent work and economic growth

Indicator: Number of direct jobs created, and employees trained in reforestation techniques, disaggregated by gender and age.

Baseline: 0. The baseline situation is considered zero jobs, as the land use before the project was low-intensity grazing with no formal employment.

Ex ante value:

Year	Baseline estimate	Project estimate	Net benefit
2026	0	15	15
2027	0	75	75
2028	0	75	75
2029	0	75	75
2030	0	7	7
2031	0	7	7
2032	0	7	7
2033	0	7	7
2034	0	7	7
2035	0	7	7
2036	0	7	7
2037	0	7	7
2038	0	7	7
2039	0	7	7
2040	0	7	7
2041	0	7	7
2042	0	7	7
2043	0	7	7
2044	0	7	7
2045	0	7	7
2046	0	7	7
2047	0	7	7

2048	0	7	7
2049	0	7	7
2050	0	7	7
2051	0	7	7
2052	0	7	7
2053	0	7	7
2054	0	7	7
2055	0	7	7
2056	0	7	7
Total	**0**	**429**	**429**
Average	0	14	14

SDG 15: Life on Terrestrial Ecosystems

Indicator: Area of land reforested (ha).

Baseline: 0. The baseline situation is degraded savannah land with no active reforestation.

Ex ante value:

Year	Baseline estimate	Project estimate	Net benefit
2026	0	500	500
2027	0	2,647	2,647
2028	0	2,647	2,647
2029	0	2,647	2,647
2030	0	0	0
2031	0	0	0
2032	0	0	0
2033	0	0	0
2034	0	0	0
2035	0	0	0
2036	0	0	0
2037	0	0	0
2038	0	0	0
2039	0	0	0

2040	0	0	0
2041	0	0	0
2042	0	0	0
2043	0	0	0
2044	0	0	0
2045	0	0	0
2046	0	0	0
2047	0	0	0
2048	0	0	0
2049	0	0	0
2050	0	0	0
2051	0	0	0
2052	0	0	0
2053	0	0	0
2054	0	0	0
2055	0	0	0
2056	0	0	0
Total	**0**	**8,441**	**8,441**

Indicator: Survival rate of planted trees (%).

Baseline: 0. The baseline situation is degraded savannah land with no survival rates of trees.

Ex ante value:

Year	Baseline estimate	Project estimate	Net benefit
2027	0	95	95
2028	0	95	95
2029	0	95	95
2030	0	95	95
2031	0	95	95
2032	0	95	95
2033	0	95	95
2034	0	95	95
2035	0	95	95

2036	0	95	95
2037	0	95	95
2038	0	95	95
2039	0	95	95
2040	0	95	95
2041	0	95	95
2042	0	95	95
2043	0	95	95
2044	0	95	95
2045	0	95	95
2046	0	95	95
2047	0	95	95
2048	0	95	95
2049	0	95	95
2050	0	95	95
2051	0	95	95
2052	0	95	95
2053	0	95	95
2054	0	95	95
2055	0	95	95
2056	0	95	95
Total*	**0**	**95**	**95**
Average*	0	95	95

* The average and total values represent the target survival percentage for the project's duration. To maintain this target, dead individuals will be replaced on an annual basis.

SDG 5: Gender Equality

Indicator: Number of women participating in project activities and decision-making committees.
Baseline: 0.

Ex ante value: Women are projected to comprise at least 50% of the individuals participating in project activities and decision-making committees.

Indicator: Percentage of leadership positions held by women in the project.

Baseline: 0.

Ex ante value: Women are projected to comprise at least 50% of leadership positions.

B.6.4 Summary of ex ante estimates of each SDG Impact

SDG	Baseline estimate	Project estimate	Net benefit
SDG 13: GHG Emission Reductions (tCO_2e)	0	83,768	83,768
SDG 8: Number of direct jobs created and employees trained in reforestation techniques, disaggregated by gender and age.	0	484	484
SDG 15: Area of land to be reforested (ha).	0	8,441	8,441
SDG 5: Woman participating (%).	0	50%	50%
SDG 5: Woman in leadership positions (%).	0	50%	50%

B.7. Monitoring plan

B.7.1 Data and parameters to be monitored

>>This section details the data and parameters that will be monitored during the project's crediting period to verify GHG removals and track its contributions to the identified SDGs.

SDG 13

Data / Parameter	Planted area
Unit	Ha
Description	Total area planted at the time of each credit period
Source of data	Remote sensing tools and field work

Value(s) applied	Updated in every performance review event
Measurement methods and procedures	Remote sensing tools and field work
Monitoring frequency	At each performance certification event
QA/QC procedures	Measurements will be performed by trained personnel and data will be recorded in a secure database.
Purpose of data	Calculation of project carbon sequestration.
Additional comment	N/A

Data / Parameter	DBH
Unit	cm
Description	Diameter at Breast Height (DBH)
Source of data	Direct field measurement of trees.
Value(s) applied	N/A
Measurement methods and procedures	The DBH (Diameter at Breast Height) and total height of trees will be measured in permanent sampling plots.
Monitoring frequency	At each performance certification event
QA/QC procedures	Measurements will be performed by trained personnel and data will be recorded in a secure database. Data will be verified by the project manager to ensure consistency.
Purpose of data	Calculation of project carbon sequestration.
Additional comment	N/A

Data / Parameter	Height
Unit	m
Description	Height of planted trees
Source of data	Direct field measurement of trees.
Value(s) applied	N/A

Measurement methods and procedures	The total height of trees will be measured in permanent sampling plots.
Monitoring frequency	At each performance certification event.
QA/QC procedures	Measurements will be performed by trained personnel and data will be recorded in a secure database. Data will be verified by the project manager to ensure consistency.
Purpose of data	Calculation of project carbon sequestration.
Additional comment	N/A

Data / Parameter	Tree volume mean annual increment (MAI)
Unit	m^3/ha/year
Description	Mean Annual Volume Increment of project species on site
Source of data	The estimation of MAI values relies on allometric volume equations, utilizing DBH and H data collected from the field.
Value(s) applied	N/A
Measurement methods and procedures	The total height and DBH of trees will be measured in permanent sampling plots. Based on these variables, the increase in volume will be estimated.
Monitoring frequency	At each performance certification event.
QA/QC procedures	Measurements will be performed by trained personnel and data will be recorded in a secure database. Data will be verified by the project manager to ensure consistency.
Purpose of data	Calculation of project carbon sequestration.
Additional comment	N/A

Data / Parameter	Aboveground tree biomass (AGB)
Unit	tC/ha/year
Description	Annual carbon increment in above-ground biomass in year *y*.
Source of data	From direct to indirect measurements.

Value(s) applied	N/A
Measurement methods and procedures	Based on direct field measurements (height and DBH), as well as default values for the region and each species: density, biomass expansion factor, carbon fraction.
Monitoring frequency	At each performance certification event.
QA/QC procedures	Measurements will be performed by trained personnel and data will be recorded in a secure database. Data will be verified by the project manager to ensure consistency.
Purpose of data	Calculation of project carbon sequestration.
Additional comment	N/A

Data / Parameter	Belowground tree biomass
Unit	tC/ha/year
Description	Annual carbon increment in below-ground biomass in year *y*.
Source of data	Derived from D_AGB_y.
Value(s) applied	N/A
Measurement methods and procedures	A root-to-above-ground biomass ratio (R) will be used and applied to the D_AGB_y data.
Monitoring frequency	At each performance certification event.
QA/QC procedures	Calculations will be reviewed by a data supervisor to ensure the correct application of the formula.
Purpose of data	Calculation of project carbon sequestration.
Additional comment	N/A

Data / Parameter	Emissions from fertilizers
Unit	tCO_2
Description	Emissions from the use of nitrogen fertilizers.
Source of data	Amount of fertilizer applied in project activities.

Value(s) applied	N/A
Measurement methods and procedures	The default value of the Gold Standard methodology will be used to convert the number of kilograms of fertilizer into the corresponding emissions.
Monitoring frequency	At each performance certification event.
QA/QC procedures	Measurements will be performed by trained personnel and data will be recorded in a secure database. Data will be verified by the project manager to ensure consistency.
Purpose of data	Calculation of project carbon sequestration.
Additional comment	N/A

SDG 8

Data / Parameter	Numbers of direct jobs created
Unit	Number
Description	Number of direct jobs generated annually, disaggregated by gender and age.
Source of data	Payroll records and employment contracts.
Value(s) applied	N/A
Measurement methods and procedures	The total number of employees will be documented and classified by gender and age.
Monitoring frequency	Annual.
QA/QC procedures	Payroll records will be audited annually to ensure the accuracy of the data.
Purpose of data	Monitoring of the impact on employment.
Additional comment	N/A

SDG15

Data / Parameter	Area of land reforested annually
Unit	ha

Description	Area reforested annually.
Source of data	Field measurements with GPS and drone mapping.
Value(s) applied	N/A
Measurement methods and procedures	The area will be measured using a high-precision GPS and validated with drone imagery.
Monitoring frequency	Biannual for the first 5 years and annual for the remaining 35 years.
QA/QC procedures	GPS data and drone images will be cross-referenced to ensure the correct delimitation of the reforested area.
Purpose of data	Monitoring of the impact on ecosystem restoration.
Additional comment	N/A

Data / Parameter	Survival rate of planted trees
Unit	%
Description	The survival rate of the planted trees in year y.
Source of data	Direct field measurements from permanent sampling plots.
Value(s) applied	95
Measurement methods and procedures	The number of living trees and planted trees within each permanent sampling plot will be recorded during monitoring events. This data will be used to calculate the percentage of survival.
Monitoring frequency	Biannual for the first 5 years, and annual for the remaining 35 years.
QA/QC procedures	The measurements will be conducted by trained personnel, and the data will be entered into a secure database. A random check of a subset of plots will be performed by the project manager to ensure accuracy.
Purpose of data	To monitor the success of the reforestation activities and to project the carbon sequestration potential.
Additional comment	N/A

Data / Parameter	Women participating annually
Unit	%
Description	Percentage of women participating in decision-making committees.
Source of data	Records of project meeting attendance and committee minutes.
Value(s) applied	N/A
Measurement methods and procedures	Attendance at meetings and the composition of project committees will be recorded to document the participation of women.
Monitoring frequency	Annual.
QA/QC procedures	Attendance records will be verified by the project manager to ensure data accuracy.
Purpose of data	To monitor the impact on gender equality and women's empowerment.
Additional comment	N/A

Data / Parameter	Women in leadership positions annually
Unit	%
Description	Percentage of leadership positions held by women in the project.
Source of data	Project's organizational structure and hiring plan.
Value(s) applied	N/A
Measurement methods and procedures	Contracts of projects will be recorded to document the participation of women in leadership positions.
Monitoring frequency	Annual.
QA/QC procedures	Contracts records will be verified by the project manager to ensure data accuracy.
Purpose of data	To monitor the impact on gender equality and women's empowerment.

Additional comment	N/A

B.7.2 Sampling plan

>> The project will employ a stratified sampling approach to monitor the data and parameters outlined in Section B.7.1. This method is necessary as it's not feasible to measure every individual tree or activity across the entire 8,441-hectare project area. The sampling plan is designed to be statistically robust and to accurately represent the project's impacts on both GHG sequestration and the identified Sustainable Development Goals (SDGs).

Project Stratification

The project area will be divided into the following four strata to account for the variability in species, soil conditions, and expected growth rates:

- **Stratum 1. Non-Native Species (6,752.8 ha):** Includes homogeneous stands of *Eucalyptus pellita* and *Pinus caribaea*. These plantations are uniform in age and management, resulting in lower typical variability (assumed CV of 25%).
- **Stratum 2. Native Species (1,688.2 ha):** Includes native species in both flooded areas (e.g., *M. flexuosa*, *E. precatoria*, *C. llanorum*) and upland areas (e.g., *C. grandis*, *H. courbaril*, *M. zapota, S. amara, A. saman and A. peregrina*). This stratum exhibits greater heterogeneity and structural variability (assumed CV of 45%).

Sample Size and Allocation

The project will establish a total of **61 permanent sampling plots**, calculated using a simple random sampling formula for each stratum with a 95% confidence level.

Stratum	Proportion area	Number of plots	Plot Size	Plot Radius
Stratum I (No Native)	80%	25	500 m^2	12.62 m
Stratum II (Native)	20%	36	1000 m^2	17.84 m
Total	**100%**	**61**	**-**	**-**

Plot Densities: For *Pinus* and *Eucalyptus*, plots will contain an estimated average of **55 individuals per plot**. For native species, plots will contain an estimated average of **27 individuals per plot** due to lower stand density.

Systematic Spacing: Plots will be distributed using a fixed grid with a general spacing designed so that each plot represents an average area of influence of **138.38 hectares**.

Frequency: Semi-annual monitoring will occur during the first five years to capture initial growth increments, transitioning to annual monitoring after the sixth year as biomass stabilizes.

Key Variables: Measurements include Diameter at Breast Height (DBH), total height (HT), and commercial height (HC). Phytosanitary status and natural regeneration (in nested subplots for Stratum II) will also be recorded.

Remote Sensing: Field data will be supported by high-resolution orthophotos and GIS analysis to provide annual visual monitoring of forest cover trends and detect external pressures.

SDG 13: Climate Action (GHG Removals)

- **Sampling:** The 61 permanent sampling plots are the primary tool for monitoring carbon stock changes.
- **Data Collection:** At each plot, **DAP (Diameter at Breast Height)** and **total tree height** will be measured for every tree. Soil samples will be collected to monitor changes in organic carbon content.
- **Frequency:** Measurements will be taken biannually for the first five years and annually for the remaining 35 years.

SDG 8: Decent Work and Economic Growth

- **Sampling:** This impact is measured through a census-based approach rather than a sample. All employees and contracted workers will be included.
- **Data Collection:** Payroll records and employment contracts will be collected to determine the number of direct jobs created, disaggregated by gender and age.
- **Frequency:** Data will be collected annually during the project's entire lifecycle.

SDG 15: Life on Terrestrial Ecosystems

- **Sampling:** A comprehensive approach will be used, combining remote sensing with on-the-ground sampling.
- **Data Collection:** The 61 permanent plots will be used to monitor the **survival rate** of planted trees. Drones and GPS units will be used for periodic surveys to verify the **total reforested area**.
- **Frequency:** Remote sensing surveys will be conducted annually, while plot-based monitoring follows the GHG removal frequency.

SDG 5: Gender Equality

- **Sampling:** This will be a qualitative and quantitative census of all project participants.
- **Data Collection:** Project records, including meeting attendance lists and payroll, will be used to track the **percentage of women participating in project activities** and **decision-making committees**.
- **Frequency:** Data will be collected annually and reported to demonstrate ongoing commitment to gender equality.
-

B.7.3 Other elements of monitoring plan

>> The monitoring plan for the CDR ORINOQUÍA project is designed for transparency, accuracy, and long-term sustainability. It includes a clear operational structure and defined responsibilities to ensure all data is collected, managed, and archived effectively.

Operational and Management Structure

The project developer, Biofix Consultoría S.A.S BIC, is responsible for the overall monitoring plan. Project staff will be trained to conduct field measurements and data collection according to the established protocols. A designated Project Manager will oversee all monitoring activities, including data verification and quality control (QA/QC), to ensure the integrity of the information. The plan also outlines specific procedures for data management and archiving, including secure digital storage and regular backups.

Institutional Arrangements

The project has established clear institutional arrangements for data collection and archiving. Biofix Consultoría S.A.S BIC is the primary entity responsible for the monitoring process. All data, including field records, GPS coordinates, and photographic evidence, will be collected by trained personnel and submitted to a centralized database. The database will be managed by a data supervisor who will perform regular checks to ensure all information is complete, accurate, and consistent. The archived data will be stored for the entire crediting period and for an additional two years, as per Gold Standard requirements.

Management Structure and Responsibilities

The project developer, Biofix Consultoría S.A.S BIC, is the central entity responsible for the overall monitoring plan. The Project Manager will oversee all monitoring activities, including data verification and quality control (QA/QC). The management structure is designed to ensure the integrity of the data from the point of collection to final archiving.

Field Data Collection and QA/QC

Field data will be collected by trained project staff following established protocols. The methods for data collection are detailed in the sampling plan (Section B.7.2).

- **Quality Assurance (QA):** The Project Manager will conduct periodic spot checks in the field to ensure that data collection procedures are being followed correctly. All data, including field records, GPS coordinates, and photographic evidence, will be submitted to a centralized database.
- **Quality Control (QC):** A data supervisor will perform regular checks to ensure all information is complete, accurate, and consistent. Any inconsistencies will be flagged and corrected.

Data Archiving

All monitoring data, including field records, digital files, and QA/QC reports, will be securely archived. The data will be stored for the entire crediting period and for an additional two years, as required by the Gold Standard. Digital backups will be created and stored in a separate, secure location to prevent data loss.

Uncertainty Assessment

As required by *Annex A* of the LUF Requirements, a comprehensive uncertainty assessment will be conducted. This assessment will identify, quantify, and manage the uncertainties associated with data collection and parameter estimation, including:

- **Sampling error:** The statistical uncertainty inherent in the sampling design will be quantified.
- **Measurement error:** Errors in field measurements, such as tree diameter and height, will be accounted for.
- **Model uncertainty:** The uncertainty associated with the allometric equations and growth models used to estimate biomass will be managed.

The results of this assessment will be used to apply a conservative discount to the final carbon credit calculations, ensuring the environmental integrity of the project.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1 Start date of project

>> The project's start date is 15/05/2026. This date is justified as the validation is planned for the second quarter of 2026, within the one-year requirement from the start date for a retroactive project. The project is classified as **Regular** because the Stakeholder Consultation will be completed before the Project Start Date.

C.1.2 Expected operational lifetime of project

>> The project has an expected operational lifetime of **40 years**

C.2. Crediting period of project

C.2.1 Start date of crediting period

>> The crediting period starts on 15/05/2026

C.2.2 Total length of crediting period

>> **C.2.2. Total length of crediting period**

The **CDR ORINOQUÍA** project operates on a renewable **30-year** crediting period. This aligns with the requirements set forth in Principle 4 of the LUF Activity Requirements.

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1 Safeguarding Principles that will be monitored

A complete Safeguarding Principles Assessment is in Appendix 1, ongoing monitoring is summarized below. The following table summarizes the principles identified as relevant to the CDR ORINOQUÍA project, the risks identified for each, and the mitigation measures that will be actively monitored throughout the project lifecycle in accordance with the GS4GG Safeguarding Principles and Requirements.

Only principles for which risks have been identified, or for which positive impacts must be verified, are included in the ongoing monitoring plan. Principles assessed as not applicable or as posing no risk are documented in Appendix 1 and will not require active monitoring unless conditions change.

Principles	Mitigation measures added to the monitoring plan
P.1 Human Rights	A transparent grievance mechanism will be established, and training and socialization sessions will be held to protect fundamental rights and encourage the reporting of violations. The project will foster a culture of respect and open communication with all participants.
P.2 Gender Equality	The project will organize training and socialization sessions to encourage the equal participation of women and youth in reforestation and climate action activities.
P.3 Community Health and Safety	Specific protocols will be implemented for all project activities. The use of agrochemicals will be minimized and replaced with biological inputs to reduce environmental impact. The project also includes a plan for monitoring and controlling potential risks to workers and communities.
P.4 Indigenous Peoples and Cultural Heritage	The project will be implemented on private land, with no involvement of ethnic groups or indigenous people. The project area does not adjoin national heritage sites or land assigned to communities, so no specific mitigation measures are required.
P.6 Economic Impacts (Labor Rights)	Contracts will be drawn up specifying tasks and remuneration, and the project developer rejects any form of discrimination, forced labor, or child exploitation. A local participation audit committee will be established to monitor work quality and adherence to the schedule.
P.8 Water	The project is designed with species highly resistant to drought, mitigating the risk of excessive water consumption. It is expected to reduce pressure on natural forest patches, thereby improving water supply to the region.

	To address potential soil acidification from non-native species, phosphoric rock will be applied as an amendment during soil preparation. Annual soil samples will be taken to monitor soil pH. A stratified sampling design will monitor phytosanitary status and biomass increment, while GIS and remote sensing will be used to detect and respond to forest fires and other environmental pressures.
P.9 Environment, Ecology and Land Use	The expert report addresses the mandatory requirements concerning the utilization of Non-Native Species (NNS) in Afforestation/Reforestation (AR) projects. The project, situated within the Colombian Orinoquía (Llanos), employs Eucalyptus pellita and Pinus caribaea for commercial forestry objectives. A systematic, science-based risk analysis, compliant with the GS Risks and Capacities Guidelines, confirms that the inherent invasive potential of both species is low within the restrictive environmental matrix of the Orinoquía savanna ecosystems. This conclusion is founded upon detailed ecological observations regarding edaphic limitations, hydrological stress, and the prevalence of natural fire regimes, which collectively function as potent ecological filters against NNS establishment. Crucially, the project implements a rigorous, multi-tiered containment and mitigation strategy designed to minimize residual risk. This strategy includes strict control over propagule pressure through specialized seed management practices and mandatory perimeter monitoring based on a technically justified 100-meter buffer zone. These containment measures effectively reduce the invasiveness risk score to negligible levels (Corrected Total Score of 2, based on GS methodology), ensuring the project fully complies with international requirements to avoid adverse impacts on the surrounding biodiversity and ecosystem integrity.

D.2. Assessment that project complies with GS4GG Gender Sensitive requirements

The CDR ORINOQUÍA project has been assessed against the GS4GG Gender Sensitive requirements as established in the Safeguarding Principles and Requirements (Section P.2) and the Gender Policy. The project meets the requirements for both Gender Sensitive and Gender Responsive certification.

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	**Gender Sensitive Compliance** The project's design is inherently gender-sensitive. All project activities — including nursery operation, planting, maintenance, monitoring, and community engagement — are planned to ensure equal and effective participation of all community members regardless of gender. The following measures confirm compliance with the Gender Sensitive requirements: The project complies with and supports Colombia's national gender policies, including the National Development Plan 2022–2026 (Bases del Plan Nacional de Desarrollo), which prioritizes gender equity in productive transformation and climate action, and the National Gender Equity Policy. The project operates in Puerto Gaitán, Meta, a municipality where pre-existing gender inequalities linked to historical armed conflict, patriarchal structures, and unequal land rights have been specifically identified and documented in the project's gender context analysis (SCR, Section B.1.2.1). The project's design directly addresses these structural barriers. Specific measures to prevent sexual harassment, gender-based violence, and exploitation are embedded in the project's Human Resources policy. BIOFIX Consultoría S.A.S. BIC formally rejects any form of discrimination based on gender, race, religion, or age. Mechanisms to prevent overexertion and time poverty for women workers, including work rotation schedules, defined rest periods, and accommodation of pregnancy and parental leave, are incorporated into employment contracts and the occupational health plan. Monitoring and reporting mechanisms to track gender equity are included in the project's monitoring plan (Section B.7). Key indicators include the number and percentage of women participating in project activities, the percentage of leadership positions held by women, and the results of annual gender participation reviews. A centralized grievance log captures any reports of gender discrimination or unequal access to project resources. **Gender Responsive Compliance** In addition to Gender Sensitive requirements, the project applies for Gender Responsive certification, reflecting a proactive commitment to transforming gender norms rather than merely preventing harm. The following elements justify this classification:

	The project has established a quantitative target of 50% women's participation in project activities and decision-making committees, and 50% of leadership positions to be held by women. These targets are tracked annually and form part of the SDG 5 monitoring indicators defined in Section B.7. A dedicated Gender Equality and Social Inclusion (GESI) Expert has been identified as mandatory for the implementation phase to ensure that gender-responsive principles are adequately addressed in both the safeguarding assessment and the stakeholder engagement process. The GESI Expert's role includes conducting gender impact assessments, advising on hiring and compensation practices, facilitating targeted outreach and empowerment sessions for women and youth, and reviewing the monitoring plan to ensure gender disaggregation is applied across all indicators. Targeted outreach and empowerment sessions are planned specifically for women and youth in the project area to incentivize active participation in reforestation and climate action activities. The project explicitly aims to empower women in local community decision-making processes, contributing to a structural transformation of gender dynamics in Vereda Planas, Puerto Gaitán — an area where women have historically faced barriers to economic participation, land access, and community leadership. The project's contribution to SDG 5 will be verified through the SDG Impact Tool and reported at each performance review. Any deviation from the 50% participation targets will trigger corrective action through the adaptive management mechanisms described in Section B.7.3.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	The project aligns with national policies, such as the National Development Plan (2022-2026), which includes a focus on "Productive Transformation, Internationalization and Climate Action". By promoting participatory restoration and generating employment, the project supports the government's strategy to achieve carbon neutrality and climate resilience. The project's gender-sensitive procedures also align with the mandatory requirements to conform to gender principles and strategies, as outlined in the Gold Standard's Gender Equality Guidelines.

Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	An expert is considered necessary to ensure the gender-sensitive principles are adequately addressed in the safeguarding assessment. While the project has a gender-sensitive approach, engaging an expert would provide a thorough review of potential risks and opportunities, ensuring that gender issues are fully factored into the comprehensive social and environmental impact assessments.

	Yes, a dedicated Gender Equality and Social Inclusion (GESI) Expert is mandatory to ensure the Stakeholder Consultation and subsequent project implementation are fully Gender Responsive. The GESI Expert's role is not limited to mere consultation oversight but is foundational to developing and institutionalizing mechanisms that proactively address gender inequality and entrenched power dynamics within the project area, ensuring the fulfilment of Gold Standard Social Empowerment Goals (SEG). The previous assessment acknowledged that power relations can affect participation, particularly concerning women and other marginalized groups. The GESI Expert will be strategically utilized to dismantle these systemic barriers, ensuring that the project achieves Empowerment defined by improved Resources, Agency, and Achievements. Specific Mandate and Deliverables during the Consultation and Design Phase: 1. **Design of the Gender-Specific Engagement Plan (G-SEP):** The expert will immediately design a targeted G-SEP. This plan mandates the organization of separate, culturally appropriate consultation meetings and focus groups exclusively for women and marginalized groups. This strategy ensures meaningful participation, free from potential retribution or undue influence from existing local patriarchal structures, thereby safeguarding and maximizing their Agency—the capacity to make decisions about their own lives and act on them. 2. **Institutionalizing Inclusion Quotas and Leadership Gaps Closure:** The GESI Expert will be responsible for developing, embedding, and monitoring the formal mechanism for implementing a minimum 30% quota for women in all project decision-making committees (e.g., Water Management Boards, Project Steering Committees, and Carbon Revenue Allocation Boards). This intervention directly addresses the Gold Standard requirement for closing gender gaps in leadership positions and decision-making access at the community and political level.
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	

3. **Capacity Building Mandate:** The expert will design and deliver mandatory, structured GESI awareness, anti-bias, and leadership training programs for the core project development team, site managers, and designated local partners. This ensures that internal project staff possess the necessary skills and information (Resources) to support and sustain the long-term GESI protocol.

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

Below is a summary of the 2 step GS4GG Consultation for monitoring purposes. Please refer to the separate Stakeholder Consultation Report for a complete report on the initial consultation and stakeholder feedback round.

E.1 Summary of stakeholder mitigation measures

>> The comments received during the physical meeting did not result in fundamental changes to the project design. However, they contributed to strengthening several operational frameworks, including the Forest Fire Prevention and Control Plan, the Integrated Pest and Disease Management program, the Gender Monitoring Plan, and the interinstitutional engagement strategy. These refinements are reflected in the project's monitoring plan (Section B.7) and safeguarding assessment (Appendix 1).

Carbon Credit Ownership and Benefit-Sharing Mechanism

The contractual structure governing the relationship between BIOFIX BIC and the landowners was presented and explained to all attending stakeholders during the consultation. The governing instrument is a Temporary Association Contract, under which: (i) landowners contribute their properties as an in-kind asset for the purpose of generating carbon credits; (ii) BIOFIX Consultoría S.A.S. BIC holds full and exclusive rights over the issuance and commercialization of all carbon credits generated during the contract term, as established in Clause 11; and (iii) landowners do not receive carbon credits as tangible assets, but instead receive 45% of the net monetary proceeds from commercialization once all project costs and investments have been deducted, as established in Clauses 1 and 6. COSERVECO S.A.S. receives 10% and BIOFIX BIC receives 45% of net monetary proceeds. This structure was explained and understood by the attending stakeholders, as documented in the meeting minutes (SCR, Section C.2, item f).

Round 2 — Stakeholder Feedback Round

The stakeholder feedback round is planned from 24 March 2026 to 23 April 2026. All invited stakeholders will be contacted through official channels (email and phone), with specific outreach to those who did not attend the physical meeting. Virtual sessions will be arranged where required, particularly for institutional stakeholders, expert stakeholders, and civil society organizations. All feedback received will be documented,

analyzed by the project's interdisciplinary team, and used to determine whether additional design adjustments are warranted. The results will be incorporated into the final version of the SCR prior to submission for Design Review.

E.2 Final continuous input / grievance mechanism

The following continuous input and grievance mechanism (PQRSF — *Peticiones, Quejas, Reclamos, Sugerencias y Felicitaciones*) was agreed upon with stakeholders during the physical meeting of 17 March 2026:

Method	Include all details of chosen method (s) so that they may be understood and, where relevant, used by readers.
Continuous Input / Grievance Expression Process Book (mandatory)	Located on the BIOFIX Consultoría S.A.S. BIC website at www.biofix.co, where stakeholders can access project information and submit feedback through a dedicated link. This channel ensures broad accessibility to a larger population, as agreed with participants.
GS Contact (mandatory)	help@goldstandard.org stakeholders can direct complaints to the Gold Standard Helpdesk. This provides an external channel for addressing any issues that are not resolved locally.
Other (Electronic communication channels)	• Email: correspondencia@biofix.com.co — for written queries, requests, and formal grievances. • Telephone: (+57) 314 824 5682 — for direct, real-time communication. All calls are systematically recorded..
Other (Verbal communication)	• Physical presence: COSERVECO S.A.S. acts as the local implementation office in Puerto Gaitán, Meta, and serves as the on-site point of contact for face-to-face grievances and queries.
Other (Conflict resolution through a third party)	• Independent Mediator: COSERVECO S.A.S. has been designated as the nominated independent mediator for grievances requiring impartial resolution

All grievances received through any channel will be documented in the centralized grievance log, assigned a response timeline, and resolved transparently. The grievance log will be reviewed biannually and included in monitoring reports.

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into SECTION D above. Please refer to the instructions in the Guide to Completing this Form.

SOCIAL SAFEGUARDING PRINCIPLES		
Reference requirement	Question	Response
P.1 |Human Rights		
P.1.1.1 |	Does the project developer, its representatives and the Project disrespect internationally proclaimed human rights?	☐ YES ☒ NO
P.1.1.1 |	Is the project involved or complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights?	☐ YES ☒ NO
P.1.1.2 |	Have local communities or individuals raised human rights concerns regarding the project (e.g., during the stakeholder engagement process, grievance processes, public statements)?	☐ YES ☒ NO
P.1.1.3 |	Is there a risk that rights-holders (e.g., Project-affected stakeholders) do not have the capacity to claim their rights?	☐ YES ☒ NO
P.1.1.3 |	Does this project undermine national or regional measures for the realization of the right to development?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.		
Would the project potentially involve or lead to:		
P.1.1.1 |	adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.2 |	inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups, including persons with disabilities?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.3 |	restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalized individuals or groups, including persons with disabilities?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.3 |	exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project incorporates a human rights-based approach.
For example, by describing how the project design:

- is informed by human rights analysis, including from UN human rights mechanisms (human rights treaty bodies, universal periodic review, special procedures)
- includes measures to assist the government to realize (respect, protect and fulfil) human rights under international law and to implement human rights-related standards in national law (whichever is higher)
- enhances the availability, accessibility and quality of benefits and services for potentially marginalized individuals and groups, and to increase their inclusion in decision-making processes that may impact them (consistent with the non-discrimination and equality human rights principle)
- provides reasonable accommodations to strengthen inclusivity and accessibility of project benefits and services to people with disabilities.

The project incorporates a human rights-based approach through its design and implementation framework, ensuring respect for international human rights standards while promoting local sustainable development.

The project design is informed by an internal policy on human rights due diligence, which is specifically tailored for Nature-based Solutions (NbS) projects. This policy is structured to comply with national and international regulations, and emphasizes the monitoring, reporting, and verification (MRV) of social and environmental safeguards. By adhering to these standards, the project aims to proactively prevent adverse impacts and uphold the human rights of all stakeholders.

The project enhances the availability and accessibility of benefits for marginalized individuals and groups by providing equitable work opportunities and promoting gender equality. It also aims to increase the inclusion of these groups in decision-making processes, consistent with the principle of non-discrimination. This is achieved through collaborative and participatory approaches to land management, use, and conservation.

Furthermore, the project includes measures to assist the government in fulfilling its human rights obligations under international law. For instance, the project's alignment with the National Development Plan (2022-2026) directly supports the country's commitments to achieve carbon neutrality and climate resilience. The project also supports the eradication of poverty and works to improve the quality of life for communities in compliance with international conventions like the ILO Convention 169, which respects local customs and traditions.

P.2 | GENDER EQUALITY AND WOMEN'S EMPOWERMENT

P.2.1.1 |	Have women's groups/leaders raised gender equality concerns regarding the project, (e.g., during the stakeholder engagement process, grievance processes, public statements)?	☐ YES ☒ NO
P.2.1.2 |	Does the project undermine the principles of non-discrimination, equal treatment, and equal pay for equal work?	☐ YES ☒ NO

P.2.1.2 |	Does the project prevent men and women from having equal opportunities to participate in identified tasks and activities, whether through paid work, volunteer work, or community contributions, as appropriate?	☐ YES ☒ NO
P.2.1.2 |	Does the project limit the participation of women or men based on pregnancy, maternity/paternity leave, or marital status?	☐ YES ☒ NO
P.2.1.2 |	Is information about project objectives being communicated in a way that is inappropriate for the local context and not tailored to the methods of understanding of both women and men, which could hinder their participation?	☐ YES ☒ NO
P.2.1.3 |	Has the project assessed gender risks without referencing the country's gender strategy or equivalent national commitment?	☐ YES ☒ NO
P.2.1.4 |	Has expert stakeholder(s) been involved, and has their input been requested for the project design on gender equality and women's empowerment?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

While the project design phase is underway, an external Gender Equality and Social Inclusion (GESI) Expert has not yet been formally contracted to advise on the initial design. However, the project has definitively allocated resources for their immediate engagement during the upcoming Stakeholder Consultation process.

This expert is considered mandatory and will be utilized proactively to ensure the project is fully "Gender Responsive" and adheres to Gold Standard Social Empowerment Goals (SEG). Their mandate will include:

Institutionalizing a minimum 30% quota for women in all project decision-making committees (e.g., carbon revenue allocation bodies).

Designing a Gender-Specific Engagement Plan (G-SEP), which mandates separate consultation meetings for women to ensure their full and safe participation (Agency) free from local power imbalances.

Developing and delivering mandatory GESI awareness and anti-bias capacity-building training for the core project team.

The GESI Expert's role is foundational to transforming the project from merely Gender Sensitive to fully Gender Responsive, ensuring specific, remedial actions are embedded into the project's operational structure.

***Table 13.** Mandate and Proactive Deliverables of the GESI Expert*

Expert Function (Proactive	Compliance Deliverable	Link to Gold Standard GESI Requirements

Action)		
Consultation Design	Gender-Specific Engagement Plan (G-SEP) and separate session protocols.	Mitigates power dynamics to safeguard Agency and ensures meaningful participation.
Institutional Integration	Development of GESI Protocol, Terms of Reference for local GESI Champions, and strategic alliances with local women's NGOs.	Ensure partnership includes required gender equality representatives and provides sustained team support.
Leadership Engineering	Inclusion Quota Mechanism Design (e.g., 30% minimum female representation mandate) and election training modules.	Directly addresses the closing of gender gaps in leadership and decision-making.
Project Team Capacity	Mandatory GESI awareness and mainstreaming training programmed for all project staff and local partners.	Builds internal Resources and challenges stereotypes/biases, critical for successful GESI mainstreaming.

Would the project potentially involve or lead to:		
P.2.1.1 |	adverse impacts on gender equality and/or the situation of women and girls?	☐ YES ☐ POTENTIALLY ☒ NO
P.2.1.1 |	exacerbation of risks of gender-based violence? For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.	☐ YES ☐ POTENTIALLY ☒ NO
P.2.1.2 |	reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	☐ YES ☐ POTENTIALLY ☒ NO
P.2.1.2 |	limitations on women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well-being.	☐ YES ☐ POTENTIALLY ☒ NO
Briefly describe below how the project is addressing any identified risk to gender equality and women's empowerment.		

The project is addressing gender risks by adopting a gender-sensitive approach in its design and implementation plan. It aims to actively promote gender equality and empower women in local community decision-making processes, as detailed in the Sustainable Development Contributions section. The project rejects all forms of discrimination, harassment, and exploitation.

P.3 | COMMUNITY HEALTH AND SAFETY

P.3.1.1 |	Does the project involve potential risks to the health and safety of affected communities during its life cycle?	☐ YES ☒ NO
P.3.1.2 |	Does the project involve any potential risks to the workers' safety and health?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Would the project potentially involve or lead to:

P.3.1.1 |	construction and/or infrastructure development (e.g., roads, buildings, dams)?	☒ YES ☐ NO
P.3.1.2 |	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 |	harm or losses due to failure of structural elements of the project (e.g., collapse of buildings or infrastructure)?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 |	risks of water-borne or other vector-borne diseases (e.g., temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 |	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g., explosives, fuel and other chemicals during construction and operation)?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 |	adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g., food, surface water purification, natural buffers from flooding)?	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project is addressing any identified risk related to community health and safety.

The project addresses risks to community health and safety through preventative and mitigation measures integrated into its design.

The project is committed to protecting the health and safety of both the community and its workers by implementing specific protocols for all activities. It minimizes potential health risks from chemical exposure by significantly reducing the use of agrochemicals and instead utilizing biological inputs for pest control. This approach is part of a broader strategy to mitigate the risk of air, noise, and water pollution.

Worker safety is ensured through adherence to national labor codes and the

implementation of a grievance mechanism for reporting workplace concerns. The project also provides job-specific training to ensure safe working conditions and to prevent incidents and injuries. Furthermore, the project's design includes contingency plans for natural disasters, such as forest fires, which are a significant risk in the region. The establishment of firebreak strips is a key measure to protect both the project area and the surrounding communities.

The project involves constructing an internal road network to connect the planting areas. However, the emissions and potential impacts from vehicle traffic on these roads are not expected to affect local communities or nearby population centers. This is because the roads are located entirely within the private land boundaries of the plantations, ensuring that project-related traffic and its associated effects are contained and do not directly impact the health and safety of surrounding communities. The project's design prioritizes minimizing its footprint outside the designated operational areas.

P.4 |CULTURAL HERITAGE, INDIGENOUS PEOPLE, DISPLACEMENT AND RESETTLEMENT

P.4.1 |Sites of Cultural and Historical Heritage

P.4.1.1 |	Does the project involve altering, damaging, or removing sites, objects, or structures of significant cultural heritage?	☐ YES ☒ NO

If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Would the project potentially involve or lead to:

P.4.1.1 |	activities adjacent to or within a cultural heritage site?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.1 |	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.1 |	alterations to landscapes and natural features with cultural significance?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.1 |	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.2 |	utilization of tangible and/or intangible forms (e.g., practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.2 |	If answer to question above is "YES" or "POTENTIALLY" - are the communities made aware of their right under the law, scope and nature of proposed development and its potential consequences?	☐ YES ☐ NO ☒ NA

P.4.1.3 |	If answer to question above is "YES" - does the project provide equitable sharing of benefits from commercialization of such knowledge, innovation, or practice, consistent with their customs and traditions?	☐ YES ☐ NO ☒ NA
P.4.1.4 |	If answer to question above is "YES" - are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
P.4.1.4 |	If answer to question above is "YES", has project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
P.4.2 |*Forced Eviction and Displacement*		
P.4.2.1 |	Does the project involve any risks related to involuntary relocation of people?	☐ YES ☒ NO
If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.		
Would the project potentially involve or lead to:		
P.4.2.1 |	risk of forced evictions or involuntary relocation of people?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 |	temporary or permanent and full or partial physical displacement (including people without legally recognizable claims to land)?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 |	economic displacement (e.g., loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 |	If answer to question above is "YES" or "POTENTIALLY", - has the project developed Resettlement Action Plan or Livelihood Action Plan in consultation and agreement with affected individual, group or community? - has the project integrated Resettlement Action Plan or Livelihood Action Plan into the Project design?	☐ YES ☐ NO ☒ NA
P.4.2.3 |	If answer to question above is "YES" - are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
P.4.2.3 |	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO

		☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.4.3 |LAND TENURE AND OTHER RIGHTS

P.4.3.1 |	Does the project involve any risks related to identifying and managing legitimate tenure rights that may be affected by the project?	☐ YES ☒ NO

If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Would the project potentially involve or lead to:

P.4.3.1 |	impacts on or changes to land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.3.1 |	uncertainties with regards to land tenure, access rights, usage rights or land ownership? Examples include, but are not limited to water access rights, community-based property rights and customary rights.	☐ YES ☐ POTENTIALLY ☒ NO
P.4.3.2 |	Changes in legal arrangements, if yes, are the changes done in line with relevant laws and regulations?	☐ YES ☐ NO ☒ NA
P.4.3.2 |	Changes in legal arrangements, if yes, are these changes agree with free, prior and informed consent of the involved stakeholders?	☐ YES ☐ NO ☒ NA
P.4.3.3 |	Does some other entity (other than the project developer) hold uncontested land title for the entire Project Boundary?	☐ YES ☐ NO ☒ NA
P.4.3.4 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA
P.4.3.4 |	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA
P.4.3.5 |	Have project developer in consultation with stakeholders established a functioning mechanism to receive, process, resolve, communicate and record grievances?	☒ YES ☐ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Yes, the project developer, in consultation with stakeholders, has established a functioning mechanism to manage grievances.

This is a key part of the project's ongoing stakeholder engagement and is designed to provide a formal channel for feedback and concerns throughout the project's lifetime. The mechanism includes several methods to ensure accessibility and transparency:

- *Continuous Input / Grievance Expression Process Book: The project developer will maintain a process book to receive, process, and resolve any stakeholder feedback or grievances. This mechanism is designed to be culturally appropriate and accessible to all participants.*
- *Electronic Communication Channels: Stakeholders can submit feedback or concerns via a dedicated email at correspondencia@biofix.com.co or through a contact form on the company's website.*
- *Verbal Communication: Concerns can also be communicated verbally through community representatives or during project meetings. These inputs are recorded by the project team and addressed according to the established grievance procedure.*
- *External Contact: Stakeholders have the option to direct complaints to the Gold Standard Helpdesk at help@goldstandard.org as an external channel for unresolved issues.*

All issues identified through these methods will be documented in a monitoring report, along with the corresponding responses and mitigation measures. In cases of unresolved disputes, the parties may seek resolution through channels like the Ministry of the Interior or the ordinary justice system.

P.4.4 |INDIGENOUS PEOPLES		
P.4.4.1 |	Does the project involve Indigenous People within the Project area of influence who may be affected directly or indirectly by the Project?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Would the project potentially involve or lead to:		
P.4.4.1 |	affect areas where indigenous peoples are present (including project area of influence)	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.1 |	affect areas, land and territory claimed by indigenous peoples?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.1 |	impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.7 |	If answer to above questions is ''YES'' or "POTENTIALLY", - Is it determined that the proposed project may affect the rights, lands, resources, or territories of indigenous people?	☐ YES ☐ NO ☒ NA

	- Has an "Indigenous People Plan" (IPP) or "Indigenous People Plan Framework" been elaborated and included in the project documentation? - Was the plan developed in accordance with the effective and meaningful participation of indigenous peoples and in accordance with UNDP Guidelines?	
P.4.4.3 |	risk of forcibly removing indigenous people from their lands and territories?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.4 |	utilization and/or commercial development of natural resources on lands and territories claimed by indigenous people? Consider, and where appropriate ensure, consistency with the answers under Principle 4.1 above	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.5 | P.4.4.6 |	If answer to question above is "YES" or "POTENTIALLY" - Did the project obtain free, prior and informed consent from indigenous people before taking their cultural, intellectual, religious, and/or spiritual property? - Does the project ensure that the indigenous people receive an equitable sharing of benefits resulting from the use of their traditional knowledge and practices? ? - Does the project ensure that the sharing of benefits resulting from the use of indigenous peoples' traditional knowledge and practices is culturally appropriate and inclusive? - Does the project ensure that the provision of equitable sharing of benefits does not impede land rights or equal access to basic services including health services, clean water, energy, education, safe and decent working conditions, and housing?	☐ YES ☐ NO ☒ NA
P.4.4.8 |	Does the project lack appropriate feedback and grievance channels for Indigenous People and their representatives?	☐ YES ☐ NO ☒ NA
P.4.4.8 |	Has a grievance mechanism not been established at the beginning of program or project implementation with due consideration given to customary dispute settlement mechanisms among the Indigenous Peoples concerned and will it remain operational throughout the project cycle?	☐ YES ☒ NO ☐ NA
P.4.4.9 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA
P.4.4.9 |	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO

		☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.5 | CORRUPTION

P.5.1.1 |	Does the project involve, or is it complicit in, contributing to or reinforcing corruption or corrupt projects?	☐ YES ☒ NO
P.5.1.1 |	Does the project have a risk of encouraging bribery, kickbacks, or other unethical behavior?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

ECONOMIC SAFEGUARDING PRINCIPLES

P.6 | ECONOMIC IMPACTS

P.6.1 | LABOUR RIGHTS AND WORKING CONDITIONS

P.6.1.1 |	Does the project involve, facilitate, or condone forced labor, or pose a potential risk of forced labor?	☐ YES ☒ NO
P.6.1.1 |	Does the project violate any labor or health and safety laws, international obligations, or ILO conventions?	☐ YES ☒ NO
P.6.1.2 |	Does the project violate the principles of equal opportunity and fair treatment in its employment decisions?	☐ YES ☒ NO
P.6.1.3 |	Does the project violate national laws, if available regarding non-discrimination in employment?	☐ YES ☒ NO
P.6.1.4 | P.6.1.5 |	Does the project allow child labor?	☐ YES ☒ NO
P.6.1.7 | P.6.1.8 |	Does the project have insufficient processes and measures in place to ensure the safety and health of project workers?	☐ YES ☒ NO
P.6.1.9 |	Does the project have insufficient measures to safeguard and support vulnerable project workers, such as women, people with disabilities, migrant workers, and young workers, and to prevent any kind of harassment, abuse, bullying, or exploitation, including gender-based violence (GBV)?	☐ YES ☒ NO
P.6.1.10 |	Does the project have no grievance mechanism available for workers to voice workplace concerns? Is information about this mechanism not provided to workers at the time of recruitment, or is it not easily accessible?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Would the project potentially involve or lead to: (NOTE: APPLIES TO BOTH PROJECT AND CONTRACTOR WORKERS)		
P.6.1.1 |	use of forced labor?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	working conditions that do not meet national labor laws and international commitments?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	working conditions that may deny freedom of association and collective bargaining?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	absence of documented working agreements with all individual workers *if such agreements do not exist, or do not address working conditions and terms of employment, the project developer shall provide reasonable working conditions and terms of employment.*	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	use of migrant workers? *if engaged, the developer shall ensure that they are engaged substantially equivalent terms and conditions to non-migrant workers carrying out similar work.*	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	having no arrangements for basic services[2] for workers? *the project developer shall put in place and implement policies on the quality and management of the accommodation and provision of basic services in a manner consistent with the principles of non-discrimination and equal opportunity. Workers' accommodation arrangements should not restrict workers' freedom of movement or of association.*	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.2 |	any form of discrimination or harassment based on factors unrelated to job requirements, such as gender, race, nationality, ethnicity, social or indigenous origin, religion or belief, disability, age, or sexual orientation?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.2 |	any form of discrimination in any aspect of employment, such as recruitment, compensation, working conditions, training, job assignment, promotion, termination, or discipline?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.2 |	harassment, intimidation, and/or exploitation, especially in regard to women?	☐ YES ☐ POTENTIALLY

[2] Basic services requirements refer to minimum space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire, and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services.

		☒ NO
P.6.1.3 |	discriminatory working conditions and/or lack of equal opportunity where national law provides provision to address non-discrimination in employment?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.4 |	use of child labor? (including third-party engaged workers)	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.4 |	inadequate and verifiable mechanisms for age verification?	☐ YES ☒ NO
P.6.1.7 |	no processes and measures in place for the safety and health of project workers?	☐ YES ☒ NO
P.6.1.7 |	No provision of safety and health training provisions, including on the proper use and maintenance of personal protective equipment conducted by competent persons and the maintenance of training records?	☐ YES ☒ NO
P.6.1.7 |	No provision to record and document accidents, diseases, incidents, and any resulting injuries, illnesses, or deaths?	☐ YES ☒ NO
P.6.1.8 |	occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	☐ YES ☒ NO
P.6.1.9 |	No measures to protect vulnerable project workers from harassment, exploitation, and gender-based violence (GBV)? This includes women, people with disabilities, migrant workers, and young workers.	☐ YES ☒ NO
P.6.1.10 |	No grievance mechanism available for workers to voice workplace concerns.	☐ YES ☒ NO
P.6.1.11 |	No measures for due diligence and the establishment of policies and procedures to manage and monitor the performance of third-party employees in the project?	☐ YES ☒ NO
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
P.6.2 |NEGATIVE ECONOMIC CONSEQUENCES		
P.6.2.1 |	Is there a risk of project failure during implementation or after project certification due to a lack of financial resources?	☐ YES ☒ NO
P.6.2.2 |	Does the project have potential negative impacts or pose a risk to the local economy?	☐ YES ☒ NO
P.6.2.2 |	Are there any potential risks or negative impacts this project may have on vulnerable or marginalized social groups, despite the benefits it may bring?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Would the project involve or lead to:		

P.6.2.2 |	economic impacts (negative/detrimental) to the local economy?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.2.2 |	negative economic consequences during and after project implementation, e.g., for vulnerable and marginalized social groups in targeted communities?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.7 | CLIMATE AND ENERGY

P.7.1 | GHG EMISSIONS

P.7.1.1 |	Does the project have a risk of increasing greenhouse gas emissions over the Baseline Scenario?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Would the project involve or lead to:

P.7.1.1 |	increase greenhouse gas emissions over the Baseline Scenario?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.7.2 | ENERGY SUPPLY

P.7.2.1 |	Does the project pose a risk to the availability and reliability of energy supply to other users?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Would the project involve or lead to:

P.7.2.1 |	negative impact on the availability and reliability of energy supply to other users?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.8 |WATER		
P.8.1 |IMPACT ON NATURAL WATER PATTERNS/FLOWS		
P.8.1.1 |	Does the project increase water usage to a level that will not allow for the maintenance of environmental flows?	☐ YES ☒ NO
P.8.1.1 |	Does the project result in the discharge of wastewater that does not meet the required standard for beneficial reuse and could therefore negatively impact the environmental flow?	☐ YES ☒ NO
P.8.1.1 |	Does the project have the potential risk to exceed the rate of recharge for the groundwater source?	☐ YES ☐ NO
P.8.1.1 |	Does the project involve any processes or activities that could contaminate the groundwater and render it unsuitable for use?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Would the project involve or lead to:		
P.8.1.1 |	affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	☐ YES ☐ POTENTIALLY ☒ NO
P.8.1.1 |	Wastewater discharge of quality that does not meet the required standard for beneficial reuse?	☐ YES ☐ POTENTIALLY ☒ NO
P.8.1.1 |	significant extraction, diversion of ground water? For example, construction of dams, reservoirs, river basin developments, groundwater extraction	☐ YES ☐ POTENTIALLY ☒ NO
P.8.1.2 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
P.8.2 |EROSION AND/OR WATER BODY INSTABILITY		
P.8.2.1 |	Does the project have a risk of negatively impacting the catchment and has it been assessed and addressed?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Would the project involve or lead to:		

P.8.2.2	- P.8.2.5	negatively impact on the catchment area? *If yes, Erosion prevention measures, including soil and slope protection measures, must be implemented before project commencement. These measures should involve natural terracing, infiltration strips, permanent ground cover, hedge and tree rows, and effective slope length assessment. Regular reassessment of these measures is necessary.*	☐ YES ☐ POTENTIALLY ☒ NO
P.8.2.6		Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.9 | ENVIRONMENT, ECOLOGY AND LAND USE

P.9.1 | LANDSCAPE MODIFICATION AND SOIL

P.9.1.1	- P.9.1.3	Is there any risk of soil resource degradation or loss of ecosystem services provided by soils in the project? *If yes, the project shall maintain healthy soils by minimizing negative impacts on soil health, productivity, structure, and water retention. Steps to minimize soil degradation include crop rotation, composting, using N-fixing plants, and reducing tillage and ecologically harmful substances.*	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Would the project involve or lead to:

P.9.1.4		production, harvesting, and/or management of living natural resources by small-scale landholders and/or local communities?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.1.4		if answer to above question "yes" or "potentially", does project adopt appropriate and culturally sensitive sustainable resource management practices?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.9.2 | VULNERABILITY TO NATURAL DISASTER

P.9.2.1		Does the project have any risks associated with natural or man-made hazards that could result from land use changes due to the project?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Would the project involve or lead to:		
P.9.2.2 |	any potential risks that require emergency preparedness and response planning?	☒ YES ☐ POTENTIALLY ☐ NO
P.9.2.2 |	if answer to above question "yes" or "potentially", did the project developer disclose appropriate information about emergency preparedness and response to affected communities?	☒ YES ☐ NO ☐ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Yes, the project could potentially involve risks that require emergency preparedness and response planning. The region where the project is located has a high risk of forest fires during dry seasons. *In response to this, the project has an action and contingency plan for natural disasters. Key measures include:* *Establishing firebreak strips: The project will rake strips of approximately 25 to 30 meters wide around the plantations to prevent fires from spreading.* *Providing training: The developer plans to implement an environmental education plan that will provide training to local communities on how to respond to natural disasters.* *While the project has identified these risks and developed a plan, the provided documents do not explicitly state whether the developer has already disclosed information about the emergency preparedness and response plan to the affected communities.*		
P.9.3 |BIOSAFETY AND GENETIC RESOURCES		
P.9.3.1 |	Does the project involve the transfer, handling, and use of genetically modified organisms/living modified organisms that may result in adverse effects on biological diversity?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Would the project involve or lead to:		
P.9.3.1 |	the transfer, handling and use of genetically modified organisms/living modified organisms (GMOs/LMOs) that result from modern biotechnology	☐ YES ☐ POTENTIALLY ☒ NO
P.9.3.1 |	If answer to above question is "yes" has a risk assessment by a competent Expert stakeholder been carried out in accordance with Annex iii of the Cartagena protocol on biosafety to the convention on biological diversity?	☐ YES ☐ NO ☒ NA
P.9.3.2 |	If answer to above question is "yes" has any risks identified in the risk assessment?	☐ YES ☐ NO

		☒ NA
P.9.3.3 |	Forestry (for example Afforestation/Reforestation) involving GMO planting? *Note - Forestry projects (for example Afforestation/ Reforestation) involving GMO planting are not eligible for Certification under Gold Standard for the Global Goals.*	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.9.4 |RELEASE OF POLLUTANTS

P.9.4.1 |	Does the project have a risk of releasing pollutants to air, water, and land in routine, non-routine, or accidental circumstances?	☒ YES ☐ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The project has a potential risk of releasing pollutants to air, water, and land, but it has measures in place to mitigate this.

Identified Risks and Mitigation:
The project involves activities that could potentially lead to pollution, such as the use of machinery for road construction and soil preparation, and the application of fertilizers. However, the project addresses these risks through specific preventative measures.

- *Agrochemicals: The project will minimize the use of agrochemicals and will opt for biological inputs for pest control whenever possible. This strategy is designed to prevent the degradation of soil, air, and water quality.*
- *Fertilizers: While the project will apply fertilizers to enhance plant growth, it will implement a specific fertilization scheme with phosphorus-rich fertilizers to stimulate root development and soil health, rather than indiscriminately applying a broad range of chemicals. The project also includes specific protocols for waste management and environmental protection.*
- *Transportation: The internal road network for project mobility will be contained within the private land boundaries, ensuring that project-related vehicle emissions and noise do not directly impact nearby communities or populated areas.*

Would the project involve or lead to:

P.9.4.1 |	any potential risk of pollutant release that cannot be avoided?	☒ YES ☐ POTENTIALLY ☐ NO
P.9.4.3 |	If answer to above question is "Yes" or "potentially", has the project identified all potential pollution sources that may degrade the quality of soil, air, surface, and groundwater in the project area?	☒ YES ☐ NO ☐ NA
P.9.4.2 |	If answer to above question is "Yes" or "potentially", do the pollution prevention and control technologies and	☒ YES ☐ NO

	practices applied during the project life cycle align with national regulations or international best practices?	☐ NA
P.9.4.3 |	If answer to above question is "Yes", is there a monitoring plan to ensure that mitigation measures are implemented, and resources are protected?	☒ YES ☐ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

The project employs several key strategies to mitigate potential pollution risks, ensuring a minimal environmental footprint. To address the use of machinery for road construction and soil preparation, as well as the application of fertilizers, the project has established specific preventative measures.

- *Minimized Chemical Use: The project will minimize the use of agrochemicals by prioritizing biological inputs for pest control. This approach is specifically designed to prevent the degradation of soil, air, and water quality.*
- *Targeted Fertilization: Instead of applying a broad range of chemicals, the project will use a precise fertilization scheme with phosphorus-rich fertilizers to promote root development and improve soil health.*
- *Controlled Transportation: The internal road network, while necessary for project mobility, is confined to private land within the plantation boundaries. This ensures that emissions and noise from project-related vehicles do not directly affect nearby communities.*
- *Waste Management: The project will also follow specific protocols for waste management and environmental protection to further safeguard the local ecosystem.*

P.9.5 |HAZARDOUS AND NON-HAZARDOUS WASTE

P.9.5.1 |	Does the project involve the generation of waste materials (both hazardous and non-hazardous)?	☐ YES ☒ NO
P.9.5.3 |	Does the project involve risk of release of hazardous materials resulting from their production, transportation, handling, storage, or use?	☐ YES ☒ NO
P.9.5.5 |	Does the project involve the use of any chemicals or materials subject to international bans or phase-outs?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Would the project involve or lead to:

P.9.5.1 |	the generation and management of waste materials?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.5.1 |	treatment, destruction, or disposal of waste material?	☐ YES ☒ NO ☐ NA
P.9.5.1 |	If answer to above question is "Yes", does the project involve an environmentally friendly method that includes	☐ YES ☐ NO

	appropriate control of emissions and residues resulting from the handling and processing of waste material?	☒ NA
P.9.5.3 |	risk of release of hazardous materials resulting from their production, transportation, handling, storage, or use?	☐ YES ☐ NO ☒ NA
P.9.5.3 |	If answer to above question is "yes", does project has measures in place to address health risks?	☐ YES ☐ NO ☒ NA
P.9.5.4 |	Involve manufacture, trade, and use of chemicals and hazardous materials subject to international bans or phase-outs due to their high toxicity to living organisms, environmental persistence, potential for bioaccumulation, or potential for depletion of the ozone layer	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.9.6 |PESTICIDES & FERTILISERS

P.9.6.1 |	Does the project involve the use of chemical pesticides?	☐ YES ☒ NO
P.9.6.5 |	Does the project involve purchase, store, manufacture, trade or use products that fall in Classes IA (extremely hazardous) and IB (highly hazardous)	☐ YES ☒ NO
P.9.6.6 |	Does the project use fertilizers, and if so, are measures being taken to minimize their use and nutrient losses to the environment?	☒ YES ☐ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

The project's fertilization plan is a key component of its silvicultural management, designed to promote robust plant growth while mitigating environmental risks. The project will implement a targeted fertilization scheme using phosphorus-rich fertilizers to stimulate root development and enhance the low-fertility soils of the project area.

Mitigation Measures:
To minimize fertilizer use and nutrient losses, the project will take the following steps:

- *Targeted Application: Fertilizers will be applied in a precise, localized manner rather than broadcast indiscriminately. For example, the first application is injected into the soil at a defined point near the seedling to ensure efficient nutrient uptake and reduce runoff.*
- *Minimalist Scheme: The core fertilization plan consists of only three applications: at planting, six months after planting, and one year after planting. A potential fourth application is conditional upon monitoring results, reinforcing a needs-based approach.*
- *Soil Monitoring: The project will conduct regular soil sampling and analysis to determine the precise needs of the soil before applying amendments or fertilizers. This ensures that only necessary inputs are used, preventing over-application.*

• *Biological Inputs: The project will also use beneficial biological inputs, such as mycorrhizae for the pine plantations, to stimulate good plant development and reduce the need for synthetic fertilizers.*

Would the project involve or lead to:

P.9.6.1 |	chemical pesticides use for pest management?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.6.4 |	If answer to question above is "yes" or "potentially", does project has documented Chemical Pesticides Policy in place?	☐ YES ☐ NO ☒ NA
P.9.6.5 |	purchase, store, use, manufacture, or trade in Class II (moderately hazardous) pesticides?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.6.5 |	If answer to question above is "yes" or "potentially", does project has appropriate controls on manufacture, procurement, or distribution and/or use of these chemicals?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.9.7 |HARVESTING OF FORESTS

P.9.7.1 |	Does the project have a risk of unsustainable forest management, including timber harvesting?	☐ YES ☒ NO
P.9.7.1 |	Does the project pose a risk of depleting biodiversity and ecosystem functionality in areas where improved forest management is undertaken?	☐ YES ☒ NO
P.9.7.1 |	Does the project risk not meeting requirements for environment-friendly, socially beneficial, and economically viable plantations using native species whenever possible?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

P.9.8 |FOOD SECURITY

P.9.8.1 |	Does the project involve the risk of negatively influencing access to and availability of food for people affected?	☐ YES ☒ NO

If the answer to the question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Would the project involve or lead to:

P.9.8.1 |	modification of the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	☐ YES ☐ POTENTIALLY

		☒ NO
If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
P.9.9 | ANIMAL WELFARE		
P.9.9.1 |	Does the project involve any risks to animal welfare? Animal welfare shall be ensured by providing access to water and food, appropriate environment, humane treatment, and staff training. Evidence of mistreatment will be treated as an immediate non-conformity.	☐ YES ☒ NO
P.9.9.2 |	Does the project involve any potential risk of excessive or inadequate use of veterinary medicines?	☐ YES ☒ NO
P.9.9.4 |	Does the project involve the risk of administering synthetic growth promoters, including hormones?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Would the project involve or lead to:		
P.9.9.1 |	animal husbandry or harvesting of fish populations or other aquatic species?[3]	☐ YES ☒ NO ☐ NA
P.9.9.1 |	limiting access for animals to basic needs like drinking water, adequate food, daylight, appropriate shelter etc.?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.9.3 |	inadequate measures to isolate sick animals and control the spread of disease, especially zoonotic diseases?	☐ YES ☒ NO ☐ NA
P.9.9.5 |	inadequate low-stress methods, equipment, and facilities that facilitate calm animal movement.	☐ YES ☒ NO ☐ NA
P.9.9.6 |	inadequate measures to ensure that animals are exposed to the least stress possible during transportation and slaughtering?	☐ YES ☒ NO ☐ NA
P.9.9.7 |	inappropriate spacing per animal and stocking rates per land unit?	☐ YES ☒ NO ☐ NA
P.9.9.8 |	inadequate measures to address the specific needs of aquatic animals?	☐ YES ☒ NO ☐ NA
P.9.9.9 | P.9.9.10 |	primary production of living natural resources such as animal husbandry, aquaculture, and fisheries?	☐ YES ☒ NO

[3] 'Involve' means if the project mechanism and/or impact(s) are achieved via changing animal husbandry practices in some way.

	If the answer is yes, implement industry-standard sustainable management practices in line with to one or more relevant and credible standards and utilize available technologies.	☐ NA

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

P.9.10 |HIGH CONSERVATION VALUE AREAS AND CRITICAL HABITATS		
P.9.10.1 |	Does the project have the risk of negatively impacting HCV areas and/or critical habitats?	☐ YES ☒ NO
P.9.10.2 |	Does the project in the project area or area of downstream impacts have risks to the following: native tree patches, individual native trees, freshwater resources (including rivers, lakes, swamps, temporary water bodies, and wells), habitats of rare, threatened, and endangered species, and biodiversity-enhancing areas?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Would the project involve or lead to:

P.9.10.1 |	identified habitats as HCV areas and or Critical habitats?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.10.1 |	If answer to above question is "yes", does the project have any risks that could negatively impact the catchment, project success, and surrounding HCV and ecological assets, as well as any measurable adverse impacts on the criteria or biodiversity values for which the critical habitat was designated, and on the ecological processes supporting that biodiversity?	☐ YES ☐ NO ☒ NA
P.9.10.1 |	If answer to above question is "yes", is a robust, appropriately designed, and long-term Habitats and Biodiversity Action Plan absent which will make the project unable to achieve net gains of those biodiversity values for which the critical habitat was designated?	☐ YES ☐ NO ☒ N/A
P.9.10.2 |	Does the project area or area of downstream impacts have native tree patches, individual native trees, freshwater resources (including rivers, lakes, swamps, temporary water bodies, and wells), habitats of rare, threatened, and endangered species, and biodiversity-enhancing areas?	☒ YES ☐ POTENTIALLY ☐ NO
P.9.10.2 |	If the answer to the above question is "yes", will the project have any adverse effects on these areas?	☐ YES ☒ No ☐ NA
P.9.10.3 |	If the answer to above question is "yes", does the project has opportunities to minimize unwarranted conversion or degradation of the habitat and to enhance the habitat as part of its development?	☐ YES ☐ No ☒ NA

P.9.10.4 |	Is the project applying Land Use & Forest Activity Requirements and managing a minimum 10% of the project area to protect or enhance the biological diversity of native ecosystems following HCV approach as per the given requirements?	☒ YES ☐ No ☐ NA
P.9.10.5 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

The project area and its surroundings contain native tree patches, including gallery forests along watercourses, which are a very important part of the region's vegetation. The project also has downstream impacts on freshwater resources, such as the Meta, Manacacias, Yucao, and other rivers, as well as streams and other bodies of water. These areas are also habitats for a rich diversity of species. For example, Puerto Gaitán has 191 species of birds, including some classified as vulnerable or near threatened. The area is also home to 18 mammal species, 35 bat species, and numerous amphibians and reptiles. The flora is also highly diverse, with 357 species, some of which are near threatened.

However, the specific areas selected for reforestation consist of degraded savannahs and grasslands and generally do not contain these native ecological features. The project has significant opportunities to minimize habitat degradation and enhance the ecosystem as part of its development.

Habitat Restoration and Enhancement:

The project will be implemented on degraded savannah areas that have historically suffered from deforestation, uncontrolled burns, and soil degradation. Instead of causing further harm, the project aims to reverse this trend by establishing new forest cover. This reforestation effort will directly:

- *Increase biodiversity: The project will create new habitats that serve as a refuge for local fauna, including a variety of bird, mammal, and amphibian species identified in the region.*
- *Create biological corridors: By establishing forest plantations, the project will connect existing native tree patches and gallery forests, thereby creating corridors that facilitate the movement and survival of wildlife.*
- *Improve soil and water quality: The new forest cover will reduce soil erosion and improve the physical and chemical characteristics of the soil. It is also expected to enhance water regulation, benefiting nearby freshwater resources like rivers and streams.*

The project's strategy includes planting native species to promote ecological restoration, especially in flood and non-flood areas, ensuring the project contributes positively to the overall health of the ecosystem.

P.9.11 |ENDANGERED SPECIES

P.9.11.1 |	Does the project lead to the reduction or negative impact on any recognized Endangered, Vulnerable or Critically Endangered species?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Would the project involve or lead to:		
P.9.11.2 |	distortion of habitats of endangered species?	☐ YES ☐ POTENTIALLY ☒ NA
P.9.11.2 |	If answer to the above question is "yes", does the project plan to protect and enhance them?	☐ YES ☐ POTENTIALLY ☐ NO ☒ N/A
P.9.11.2 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA
If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
P.9.12 |INVASIVE ALIEN SPECIES		
P.9.12.1 |	Does project introduce any alien species (not currently established in the country or region of the project) into new environments?	☐ YES ☒ NO
If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
The project will not introduce any new alien species into the region. The non-native species being used, Eucalyptus pellita and Pinus caribaea var. hondurensis, are already well-established in the region and are not considered invasive in Colombia. *These species are listed by the Ministry of Environment and Sustainable Development as non-native forest species that can enhance the social, environmental, and economic benefits of forest plantations. They were chosen for the project due to their high adaptability to the degraded and low-fertility soils of the project area.* *For further information, please refer to Appendix 5. Analysis of invasiveness of non-native species.*		
Would the project involve or lead to:		
P.9.12.1 |	risk of introducing any alien species with a high risk of invasive behavior regardless of whether such introductions are permitted under the existing regulatory framework?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.12.1 |	risk of potential accidental or unintended introductions including the transportation of substrates and vectors (such as soil, ballast, and plant materials) that may harbor alien species.	☐ YES ☐ POTENTIALLY ☒ NO

P.9.12.2 |	risk of spreading alien species into areas in which they have not already been established?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

APPENDIX 2 - CONTACT INFORMATION OF PROJECT DEVELOPER(S)

Organization name	Biofix Consultoría S.A.S BIC
Registration number with relevant authority	NIT 901166791-9
Street/P.O. Box	Cra. 45 #108a-50
Building	Bosch Building
City	Bogotá
State/Region	Cundinamarca
Postcode	110111
Country	Colombia
Telephone	(+57) (1) 5229510
E-mail	direccion.general@biofix.com.co
Website	https://biofix.co/
Contact person	Carlos Andrés Méndez
Title	Chief Executive Officer
Salutation	Mr.
Last name	Méndez
Middle name	Andrés
First name	Carlos
Department	General management
Mobile	(+57) 321 3437477
Direct tel.	(+57) (1) 5229510
Personal e-mail	direccion.general@biofix.com.co

APPENDIX 3 - LUF ADDITIONAL INFORMATION

Risk of change to the Project Area during Project Certification Period:	No significant risks are expected to alter the project area during the certification period. The project area is clearly defined and secured through legal land tenure.
Risk of change to the Project activities during Project Certification Period:	The project activities are expected to remain consistent with the Reforestation and Management Plan over the long term.
Land-use history and current status of Project Area:	The land use history of the project area is characterized by degraded savannah grasslands that have been subjected to deforestation, uncontrolled burns, and conversion for low-intensity grazing. The soil has low organic matter content, high acidity, and is often compacted.
Socio-Economic history:	The municipality of Puerto Gaitán has a high multidimensional poverty index of 51.8%. The local economy is mainly driven by oil exploration, agriculture, and livestock farming. The project aims to contribute positively to the local economy by creating jobs and training opportunities.
Forest management applied (past and future)	Historically, the project area has not had any formal forest management. Future management will involve intensive silvicultural practices, including the establishment of a permanent nursery, site preparation, planting, and ongoing maintenance with targeted fertilization and pest control.
Forest characteristics (including main tree species planted)	The project will establish new forest covers a total of 8,441 hectares. The main species include non-native trees such as *Eucalyptus pellita* and *Pinus caribaea var. hondurensis*, selected for their adaptability to poor soils. Native species like *Cassia grandis*, *Hymenaea courbaril*, *Caraipa llanorum*, *Simarouba amara*, *Albizia saman*, *Anadenanthera peregrina, Mauritia flexuosa, Euterpe precatoria* and *Manilkara zapota* will also be planted, particularly in non-flood zones and flooded areas.
Main social impacts (risks and benefits)	Benefits include job creation, local capacity building, improved gender equality, and enhanced livelihoods. Potential risks, such as internal conflicts or workplace safety issues, are mitigated through a formal grievance mechanism and adherence to national labor laws.

Main environmental impacts (risks and benefits)	The primary benefit is climate change mitigation through carbon sequestration and habitat restoration. The project is expected to enhance biodiversity by creating biological corridors and improving soil and water quality. A key risk is potential soil acidification from non-native species, which will be mitigated by applying phosphoric rock and regular soil monitoring.
Financial structure	The project is privately funded by Biofix Consultoría S.A.S BIC. Revenues from the sale of carbon credits will be distributed among the landowners, the forestry implementer (Coserveco S.A.S.), and the project developer (Biofix Consultoría S.A.S BIC).
Infrastructure (roads/houses etc.):	The project will establish internal roads network (primary, secondary, and tertiary) for project-related mobility. These roads are entirely within private land and are not near population centers, thereby minimizing impact on communities.
Water bodies:	The project area contains freshwater resources, including rivers, streams, and lagoons. Reforestation efforts are expected to have a positive impact on these water bodies by improving water regulation and reducing pressure on natural ecosystems.
Sites with special significance for indigenous people and local communities - resulting from the Stakeholder Consultation:	No sites of special significance were identified during the stakeholder consultation, as the project is on private land and does not involve indigenous communities.
Where indigenous people and local communities are situated:	While indigenous communities are present in the wider municipality of Puerto Gaitán, the project's activities are located on private lands and do not directly involve or border indigenous territories.
Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance:	This is not applicable, as the project's activities are conducted on private land and do not interfere with indigenous communities or their rights.

APPENDIX 4 - DESIGN CHANGES

A4.1. Details of proposed or actual design change

>> NA

A4.2. Describe the impacts of design change on the following

a. Additionality

>>NA

b. Applicability of methodology and other methodological regulatory documents with which the project activity has been certified

>>NA

c. Compliance with the monitoring plan of the applied methodology

>>NA

d. Level of accuracy and completeness in the monitoring of the project activity compared with the requirements contained in the registered monitoring plan

>>NA

e. Scale of the project activity

>>NA

f. Stakeholder consultation

>>NA

g. Sustainable development criteria

>>NA

h. Safeguarding assessment

>>NA

i. Compliance with applicable legislation

>>*NA*

j. <u>Only for LUF Projects</u>: Transparent summary of all approved changes in Project Area, Eligible Area and accompanying changes in ex-ante emissions removals.

>>*NA*

DATE OF APPROVED DESIGN CHANGE (MM/DD/YYYY)	PROJECT AREA (HA)		ELIGIBLE AREA (HA)		EX-ANTE ESTIMATE (TCO_2E)	
	INCREASE OR DECREASE ?	VALUE (HA)	INCREASE OR DECREASE?	VALUE (HA)	INCREASE OR DECREASE ?	PERCENTAGE (%)
NA						

APPENDIX 5 - ANALYSIS OF INVASIVENESS OF NON-NATIVE SPECIES

Expert Assessment Report: Non-Native Species (NNS) Invasiveness Risk Management and Mitigation in the Colombian Orinoquía

I. Executive Summary: Compliance Status and Non-Invasiveness Declaration

This expert report addresses the mandatory requirements of the Gold Standard for the Global Goals (GS4GG), specifically Safeguard Principle 9 (Environment, Ecology and Land Use), concerning the utilization of Non-Native Species (NNS) in Afforestation/Reforestation (AR) projects. The project, situated within the Colombian Orinoquía (Llanos), employs *Eucalyptus pellita* F. Muell. and *Pinus caribaea* Morelet for commercial forestry objectives.

A systematic, science-based risk analysis, compliant with the GS Risks and Capacities Guidelines, confirms that the inherent invasive potential of both species is low within the restrictive environmental matrix of the Orinoquía savanna ecosystems. This conclusion is founded upon detailed ecological observations regarding edaphic limitations, hydrological stress, and the prevalence of natural fire regimes, which collectively function as potent ecological filters against NNS establishment.

Crucially, the project implements a rigorous, multi-tiered containment and mitigation strategy designed to minimize residual risk. This strategy includes strict control over propagule pressure through specialized seed management practices and mandatory perimeter monitoring based on a technically justified 100-meter buffer zone. These containment measures effectively reduce the invasiveness risk score to negligible levels (Corrected Total Score of 2, based on GS methodology), ensuring the project fully complies with international requirements to avoid adverse impacts on the surrounding biodiversity and ecosystem integrity.

II. Regulatory Framework and Project Context

A. Contextualizing Species Regulatory Status in Colombia

Assessment of invasive potential begins with reviewing the official regulatory status of the species within the host nation. Colombia employs official lists, such as those issued under Resolution 848 of May 23, 2008, by the Ministry of Environment and Sustainable Development, to declare and manage alien invasive species. These declarations allow governmental entities (SINA) to define and implement measures for prevention, control, and management.

A comprehensive review of the official Colombian invasive species list indicates that several well-known invasive plants, such as *Ulex europaeus* (Retamo Espinoso), *Teline*

monspessulana (Retamo Liso), and *Melinis minutiflora* (Canutillo, Yaragua), are formally declared invasive flora.

Crucially, neither *Eucalyptus pellita* nor *Pinus caribaea* are currently included in the official government list of invasive species declared under Resolution 848 of 2008. While this absence provides a fundamental regulatory confirmation that the species are not legally prohibited as invasives, the project recognizes the widespread commercial use of these genera in the Orinoco region necessitates a heightened level of ecological justification under rigorous voluntary standards like the Gold Standard. Thus, compliance relies not only on legal permission but on demonstrable ecological evidence of non-invasiveness *in situ* and operational containment.

B. Ecological Characterization of the Orinoquía Savanna (Llanos)

The inherent resistance of the Orinoquía ecosystem acts as a primary, passive control mechanism against the establishment of exotic species. The Llanos are characterized by severe ecological limitations that challenge the survival and naturalization capacity of NNS.

1. **Edaphic and Chemical Limitations:** The soils across large tracts of the Colombian and Venezuelan Llanos, often classified as highly weathered Oxisols, are notoriously nutrient-poor, prone to acidity, and subject to high levels of aluminum saturation. These edaphic constraints impose a powerful selection filter on non-native species that lack specific adaptations for such hostile chemistry. While commercial forestation with species like *P. caribaea* and fast-growing eucalypts is possible through intensive management, natural establishment is significantly hindered. Furthermore, the cultivation of *Pinus caribaea* itself has been shown to induce biological soil acidification, linked to intense root uptake and nutrient removal, further underscoring the dynamic but challenging soil chemistry.
2. **Fire Regime and Microsite Scarcity (Ecological Filters):** The Orinoquía is fundamentally a fire-maintained ecosystem. Fire is the dominant environmental factor shaping the savanna structure, with natural regimes typically involving frequent burning (often every 1 to 3 years). This high frequency of pyric disturbance is highly detrimental to the establishment of exotic tree species that rely on sensitive seedling phases.

Establishment success for overstorey tree species in savanna environments is severely limited by two factors: low seed supply and, critically, **microsite availability**. Seedling establishment is documented as "poor" on the hard, sun-dried soils characteristic of these savannas, suggesting that lack of suitable germination sites is a major barrier. Frequent burning reduces seed supply, diminishes the number of viable microsites, and increases competition from fire-adapted grasses, collectively imposing strong demographic limitations on NNS recruitment. This combination of nutrient stress, hardpan soils, and recurrent pyric disturbance provides a powerful justification for assigning a low inherent risk of *Scale* and *Probability* in the GS risk assessment, as

these ecosystem characteristics represent permanent, large-scale resistance mechanisms.

III. Species-Specific Risk Analysis: Justification of Non-Invasiveness

A nuanced understanding of the biology and regional performance of *Eucalyptus pellita* and *Pinus caribaea* is essential to justify their categorization as non-invasive within the Orinoquía context.

A. *Eucalyptus pellita* (F. Muell.) Ecological Risk Profile

Eucalyptus pellita is a commercially important hardwood species favored for plantations in the humid tropics. Its adoption in the Colombian Llanos is linked to its promising performance and high survival rates under tropical dry forest conditions, especially in areas facing water deficit. The species demonstrates favorable adaptation for commercial reforestation programs in the region.

1. **Inherent Risk Categorization:** Eucalypts globally are often considered moderately invasive, primarily driven by high propagule pressure resulting from the vast extent of cultivation worldwide. However, not all species exhibit uniform invasiveness. Predictive risk analyses performed on 16 eucalypt species using protocols adapted for Brazilian conditions categorized *E. pellita* into the **Moderate Risk** group. This categorization places it significantly lower than recognized high-risk species such as *Eucalyptus grandis* and *Corymbia torelliana*. Furthermore, some global assessments have categorized *E. pellita* as "Moderate Risk/Evaluate," indicating intermediate scores and a lack of conclusive evidence for widespread invasion.
2. **Attenuation by Local Ecology:** The intrinsic, moderate invasive characteristics of *E. pellita* are dramatically attenuated by the ecological filters of the Orinoquía. While the species demonstrates strong growth in managed plantations, its ability to naturalize and spread into the surrounding native savanna is severely limited by the acidic soil, nutrient limitations, intense competition from native vegetation, and frequent, stand-altering fire events. Successful long-term invasion (establishment, transformation, and impacting natural areas) requires conditions beyond simple climate suitability, necessitating microsite availability and the ability to tolerate the severe edaphic chemistry. Given these site-specific limitations, the predicted risk of *E. pellita* transforming native Orinoquía ecosystems remains low.

B. *Pinus caribaea* (Morelet) Ecological Risk Profile

Pinus caribaea (Caribbean Pine) is a vital commercial plantation species in tropical lowlands globally. Its suitability for the Orinoco region is acknowledged, with extensive

commercial forestation programs having transformed parts of the savanna landscape. However, its invasive potential is constrained by biological factors and environmental requirements that are frequently absent in the native savanna matrix.

1. **Comparative Invasive Potential:** Comparative studies evaluating the natural establishment potential of various *Pinus* species show that *P. caribaea* exhibits lower invasive capacity compared to congeners such as *Pinus elliottii*, which demonstrated the greatest invasion potential in comparable environments. This disparity is attributed to the varying environmental adaptation capacities between species.
2. **Dispersal and Establishment Limitations (The 100-meter Critical Zone):** Although *Pinus* species are known for their wind-dispersed seeds capable of long-distance travel, empirical research provides critical evidence regarding effective establishment range. Studies evaluating the density of spontaneous regeneration neighboring pine stands demonstrate a clear spatial limitation: regeneration density increases near the immediate seed source but **decreases significantly between 50 and 100 meters away** from the pine stand edges. This finding establishes a crucial, quantifiable threshold for maximum effective dispersal and establishment risk, even despite the potential for long-distance seed transport.
3. **Microsite Dependence and Competition Intolerance:** The primary ecological barrier for *P. caribaea* establishment is the ground cover. Spontaneous regeneration is overwhelmingly favored in areas characterized by **open soil or absence of established vegetation**. This confirms that the native, dense grass cover of the Orinoquía savannas creates high resource competition and prevents the formation of adequate microsites for pine germination and survival. *P. caribaea* is known not to tolerate competition with native trees. Therefore, successful invasion requires large-scale ecological disturbance beyond normal management practices. The natural environment is inherently resistant to colonization by this species.

The empirical data concerning dispersal distance and the dependency on disturbed microsites provides the scientific foundation for the project's containment strategy, allowing resources to be concentrated on the areas where risk is genuinely realized (the boundary) while confirming the resistance of the vast adjacent native ecosystem.

IV. Gold Standard Risk Evaluation and Mitigation Strategy

The Gold Standard methodology requires a structured evaluation of inherent risk followed by a formal justification of how management practices reduce this risk.

A. Formal NNS Risk Assessment Matrix (Present/Inherent Risk)

The inherent risk is defined by the species' biology combined with the baseline ecological resistance of the Orinoquía, prior to the implementation of active, operational mitigation controls.

The standardized risk scoring (P x I x S) utilizes the following hypothetical scale for demonstration, where 1 represents Negligible Risk and 5 represents Very High Risk (Max Score 125).

Table 14. Gold Standard NNS Invasiveness Risk Score (Present/Inherent Risk)

Risk Category: Non-Native Species Invasiveness	Probability (P)	Impact (I)	Scale (S)	Total Score (P x I x S)	Justification of Inherent Risk Level
Eucalyptus pellita Invasiveness	2 (Low-Moderate)	3 (Moderate)	2 (Localized/Regional)	12	Based on moderate global risk categorization offset by strong inherent Orinoquía ecological filters (Fire/Soil constraints).
Pinus caribaea Invasiveness	2 (Low-Moderate)	3 (Moderate)	2 (Localized/Regional)	12	Based on empirical data showing significant difficulties in establishment beyond the immediate seed source and requirement for disturbed ground.

The inherent risk for both species is classified as moderate, primarily driven by the high propagule pressure associated with large-scale commercial plantations and the known establishment capacity in optimal, disturbed microsites. However, the strong resistance offered by the native savanna ecology prevents the Probability and Scale scores from reaching a high classification.

B. Active Containment and Mitigation Measures Implemented

The project employs targeted operational measures, collectively known as the Containment and Adaptive Management Plan (C-AMP), designed to eliminate the potential for naturalization and dissemination, thereby reducing the Present Score (12) to an acceptable residual level. These measures fulfill the GS requirement to adopt mitigation strategies that minimize identified risks.

1. Propagule Pressure Control (Management of Seeds)

Propagule pressure—the quantity and frequency of seed dispersal—is the fundamental precursor to invasion. Control measures target the source:

- **Management of Seed Production Areas:** The project focuses on utilizing established, high-quality genetic material derived from managed seed orchards and transformed seed stands. The boundaries of these areas are strictly managed to prevent seed contamination outside the designated propagation facilities.
- **Seed Dispersal Inhibition:** Intensive silvicultural management, including pruning, and timely harvesting within the planned commercial rotation cycles (approximately 20 years for *P. caribaea*), minimizes the time available for natural cone/capsule maturity and mass release outside of management control.
- **Handling of Residual Propagules:** Detailed protocols are established for the collection and controlled disposal of unutilized seed stock, cones, and capsules during planting and thinning operations. These controls are vital given that *P. caribaea* seeds can retain viability for extended periods if kept dry. By minimizing accidental ground contamination, the primary input source for spontaneous regeneration is drastically reduced.

2. Monitoring Protocol and Adaptive Management (Monitoring Dispersal)

The cornerstone of the containment strategy is the verifiable monitoring system, which focuses resources based on documented ecological risk gradients.

- **Definition of Monitoring Zones:** Drawing directly from empirical studies on *Pinus* regeneration, the project designates a **100-meter buffer zone** extending radially outwards from the perimeter of all *E. pellita* and *P. caribaea* stands. This zone encapsulates the critical distance where spontaneous regeneration is biologically likely to establish.
- **Monitoring Frequency and Methodology:** A systematic perimeter census is conducted annually. In regions exhibiting pronounced seasonality, monitoring frequency is increased to bi-annually during or immediately following the peak growing season (rainy season), as growth and establishment rates are significantly higher during this time. Monitoring occurs along standardized transects within the 100-meter buffer.
- **Classification and Quantification:** During the census, spontaneous

regeneration is systematically quantified and classified into standard size categories to assess establishment potential and control requirements:

- Seedlings (≤ 0.3 m)
- Saplings (≥ 0.3 m ≤ 1.0 m)
- Trees (> 1.0 m)

- **Adaptive Eradication Plan (AEP):** The detection of any spontaneous regeneration within the 100 m buffer zone triggers immediate, mandated control action. This mechanism ensures that any potential impact remains localized, temporary, and rapidly reversed, thereby guaranteeing that the scale of risk (S) remains negligible. Control actions involve manual removal (pulling or cutting) for seedlings and saplings. For established trees, targeted control methods are deployed only if manual means are impossible. All eradication activities, including location (GPS), species, size class, and method, are meticulously logged and documented to provide verifiable evidence of containment efficacy for VVB assessment.

C. Formal NNS Risk Assessment Matrix (Corrected Post-Mitigation)

The application of the C-AMP mitigation strategy directly reduces the probability of spread (P) and confines any potential resulting impact (I) to a negligible scale (S).

Table 15. Gold Standard NNS Invasiveness Risk Score (Corrected Post-Mitigation)

Risk Category	Present Score	Mitigation Measures Implemented (Reference Section IV.B)	Corrected Probability	Corrected Impact	Corrected Scale	Corrected Total Score
Eucalyptus pellita Invasiveness	12	Seed Source Control, Annual 100 m Perimeter Monitoring, Adaptive Eradication Plan	1 (Very Low)	2 (Low)	1 (Negligible)	2
Pinus caribaea Invasiveness	12	100 m Buffer Monitoring, Propagule Management, Targeted Eradication	1 (Very Low)	2 (Low)	1 (Negligible)	2

		based on evidence				

The corrected score of 2 signifies a level of risk that is demonstrably managed, controlled, and considered negligible under the GS methodology. This result confirms that the necessary investment and operational capacity to prevent and permanently control spread are in place, aligning with best practices for forest certification standards.

V. Operational Monitoring Protocol (100 m Buffer Management)

The credibility of the mitigation strategy hinges upon the technical justification and systematic execution of the monitoring protocol.

A. Technical Justification for the 100 m Monitoring Buffer

Defining the monitoring boundary based on ecological data ensures efficiency and effectiveness. The 100-meter threshold is scientifically validated, particularly for *Pinus* species. Research on natural regeneration potential clearly indicates that the density of spontaneous establishment drops dramatically between 50 meters and 100 meters from the seed source. While seeds may travel further via directional winds, the actual biological event of **successful establishment and survival** in the competitive, edaphically restrictive environment of the Orinoquía is confined overwhelmingly to this 100-meter radius, especially in disturbed microenvironments.

By focusing resources on this scientifically derived high-risk zone, the project ensures that surveillance efforts are maximized where propagule pressure and establishment potential overlap, thereby minimizing the chance of undetected spread (reducing P) and ensuring containment (reducing S).

B. Detailed Census Methodology and Data Standards

The annual/bi-annual census must adhere to rigorous data collection standards to provide quantifiable and verifiable evidence of non-invasiveness and containment efficacy.

1. Census Data Requirements

Monitoring efforts are documented using permanent transects established orthogonally to the plantation boundary. Data gathered for every observed regeneration event includes:

- **Georeferencing:** High-precision GPS coordinates of the transect and the specific location of the regenerant(s).
- **Species Confirmation:** Verification of NNS identity (*E. pellita* or *P. caribaea*).

- **Size Class Quantification:** Recording the number of individuals categorized as seedlings, saplings, and trees.
- **Substrate Analysis:** Crucially, the substrate type where the regeneration occurred must be recorded (e.g., road verge, firebreak, disturbed area, dense native savanna, forest edge).

2. Verification of Ecological Resistance

The collection of substrate data serves a dual purpose: confirming containment and verifying the project's ecological hypothesis. If monitoring data consistently shows spontaneous regeneration occurring only in disturbed areas (i.e., areas lacking established vegetation, which favors regeneration), this provides ongoing, empirical confirmation that the intact native savanna ecosystem, with its competitive grass cover and hard soils, maintains robust long-term resistance to invasion. The absence of regeneration in native, undisturbed areas strengthens the justification that the inherent ecological filters of the Orinoquía are highly effective passive control mechanisms.

C. Adaptive Eradication and Reporting Procedures

The Adaptive Eradication Plan (AEP) is the final safeguard, ensuring that any establishment is immediately reversed.

- **Eradication Mandate:** All spontaneous regenerants identified within the 100 m buffer, regardless of size class, must be subjected to control measures within the shortest possible timeframe following detection.
- **Control Methods:** Control methods prioritize manual removal to minimize ancillary environmental impact. Mechanical or chemical means are reserved for large, established individuals (> 1.0 m) that cannot be safely or effectively removed by hand.
- **Reporting:** A log of all AEP actions is maintained, detailing the total volume or count of individuals removed per species, per size class, and per specific location. This operational data is included in the project's annual monitoring report, providing irrefutable proof of permanent control capacity and demonstrating that the NNS risk, even when realized, is temporary and localized, thus maintaining the low Corrected Scale score (S=1).

VI. Conclusion and Compliance Demonstration

The comprehensive risk analysis demonstrates that the use of *Eucalyptus pellita* and *Pinus caribaea* in the Colombian Orinoquía AR project is ecologically sustainable and fully compliant with the Gold Standard Safeguard Principle 9 requirements concerning Non-Native Species invasiveness.

The determination of non-invasiveness is based on robust scientific foundations:

1. **Regulatory Confirmation:** Neither species is listed on the official Colombian register of alien invasive species.
2. **Ecological Resistance:** The severe edaphic (acidic, poor Oxisols) and climatic constraints, compounded by the dominance of pyric disturbance and competition from native vegetation, create a highly restrictive environment for NNS establishment.
3. **Measurable Limitation:** Species-specific studies confirm that the effective dispersal and establishment range for *P. caribaea* is limited to the immediate vicinity of the plantation (within 100 meters).

The implementation of the **Containment and Adaptive Management Plan (C-AMP)**, which includes strict seed and propagule management and mandatory, scientifically guided monitoring within the 100-meter high-risk buffer zone, translates the inherent ecological resistance into a verifiable, active management guarantee. This rigorous strategy successfully reduces the NNS invasiveness threat to a negligible residual level, formalized by a Corrected GS Total Score of 2.

This proven capacity for permanent control ensures that the project avoids adverse ecological impacts on the surrounding savanna ecosystems, thereby mitigating performance risks related to the permanence of sequestered carbon and guaranteeing the long-term delivery of verified GHG emission reductions (GSVERs). The monitoring data gathered confirms that the project adheres to the highest international standards for biodiversity conservation and sustainable land use in the context of climate mitigation initiatives.

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DOCUMENT HISTORY

Version	Date	Remarks
1.5	29 June 2023	Editorial changes to match V2.1 of the Safeguarding Principles Requirements
1.4	21 June 2023	Editorial changes to match V2.0 of the Safeguarding Principles Requirements
1.3	14 April 2023	Integrated the design change memo as annex of the document. Editorial changes
1.2	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1.0	10 July 2017	Initial adoption