Gold Standard for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION & VPA DESIGN DOCUMENT (PDD)

PUBLICATION DATE **04.05.2022**

VERSION **v. 2.0**

RELATED SUPPORT - Programme of Activity requirements

This document contains the following Sections

KEY PROJECT INFORMATION

Type of VPA	☒ Real case VPA ☐ Regular VPA
Scale of VPA Note that a VPA can be of one scale. Please select applicable scale accordingly.	☐Microscale ☐Small scale ☒Large scale
Title of corresponding real case VPA (if applicable)	BaumInvest Forest Landscape Restoration Programme – Reforestation Project in Costa Rica 01
GS ID of real case VPA (if applicable)	GS11708
GS ID of VPA	GS11708
Title of VPA	BaumInvest Forest Landscape Restoration Programme – Reforestation Project in Costa Rica 01
Time of First Submission Date	11.05.2022
Date of Design Certification	Not applicable
Version number of the VPA-DD	Version 6.0
Completion date of version	04/11/2022
Coordinating/managing entity	BaumInvest AG
VPA Implementer (s)	BaumInvest AG
Project Participants and any communities involved	BaumInvest SA
Host Country (ies)	Costa Rica
GS ID and Title of applicable Design Certified VPA	Not applicable
GS ID and Title of applicable Performance Certified VPA	Not applicable
Activity Requirements applied	☐ Community Services Activities ☐ Renewable Energy Activities

	☒ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Other Requirements applied	PAR Programme of Activity Requirements v2.0 PAR_Principles-Requirements PAR_Stakeholder-Consultation-Requirements PAR_Safeguarding-Principles-Requirements
Methodology (ies) applied and version number	• Afforestation/Reforestation GHG Emissions Reduction & Sequestration Methodology v1.0 • LUF AR Methodology Soil Carbon Tool v1.0 • A/R Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" (version 01)
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
VPA Cycle:	☒ Regular ☐ Retroactive

Land-use & Forest and Agriculture - Key Project Information[1]

(delete below table if N/A)

Scope:	☒ Forestry ☐ Agriculture
Silvicultural system:	☒ Conservation (no use of timber) ☐ Selective Harvesting

[1] Please refer to 0 for detailed information on LUF projects

	☐ Rotation Forestry
Project Area (ha):	1,537.1 ha.
Eligible Area (ha):	1,171.8 ha.
10% Set Aside Conservation area (ha):	Not applicable as the whole project is for conservation.
Evidence that Project Area Boundary is clearly distinguishable in the field:	The Project area boundary is distinguishable in the field with the aid of: • Natural delimitations such as rivers, natural forest. • Roads and fences. • Maps from the property (see attachment "Map01_Project_location.pdf".
Planting Area	1,030 ha.
How many Modelling Units (MUs) are included in the eligible area:	One modelling unit (MU)
Summary of New Areas added (copy and insert as needed):	
Size (ha):	Not applicable
Date Added	Not applicable

Table 1 – Estimated Sustainable Development Contributions

Sustainable Development Goals Targeted	SDG Impact (defined in B.6)	Estimated Annual Average	Units or Products
1 End poverty	• Number of employees with long-term employment contracts subject to social security contributions and wages above the national minimum wage of Costa Rica (who worked at	• 4 employees	

	least 3 years for the company).	
8 Decent work and economic growth	• Fulfilment of labour rights for all employees. • Employees assisting relevant trainings • Safety equipment for all employees	• Up to 25 employees
13 Climate Action (mandatory)	• Emission reductions / natural carbon removals through reforestation of former pastureland measured in t CO_2e /ha/year.	• More than 800,000 tCO_2 (around 20,000 tCO_2e/year).
15 Life on land	• Area of former pastureland permanently restored / reforested with native tree species in hectare (ha). • Increase number of herpetofauna present in the project area, and the number of threatened species of herpetofauna	• 1,030 ha afforested with native tree species • Increase number of herpetofauna present in the project area, and the number of threatened species of herpetofauna.

SECTION A. DESCRIPTION OF PROJECT

A.1. Purpose and general description of project

The "Reforestation Project in Costa Rica 01" is the first voluntary project activity (VPA) that will be included into the broader framework of the Programme of Activities (PoA) "BaumInvest Forest Landscape Restoration Programme".

The "Reforestation Project in Costa Rica 01" consists of the ecological restoration of 1,030 hectares of former cattle pastures, which are mainly distributed in two geographical regions in the remote Northern Zone of Costa Rica: Caño Negro in Los Chiles district and Cote in Guatuso district.

The main objectives of the "Reforestation Project in Costa Rica 01" are to:

- mitigate climate change through long-term carbon sequestration through planted trees and regeneration of secondary forests.
- contribute to sustainable socio-economic development and poverty reduction through long-term employment in rural areas of Costa Rica.
- protect biodiversity by conserving natural habitats and improving habitat connectivity.

Table 1. Project description as per Programme of Activities Requirements

Project description criteria	**Project description**
a) Current project area environmental conditions, including the climate, hydrology, soils and ecosystems.	*Cote area (Guatuso district)* The farms located in Cote (Cantón Guatuso) are at an elevation between 225 – 720 m. above sea level, with an irregular slope in the range from 0% to maximum values of 50% slope. The predominant soil type in this area is Cambisol. The farms are located in three different biomes: very humid tropical forest (bmh-T), very humid tropical forest transition to premontane (bmh-T12) and premontane rainforest (Bp-P). The area is characterized by an annual precipitation of 3000-4000 mm, and temperatures between 19.9 – 27.9 °C. The average annual humidity in the area is 73%. This project area is located in the river basin of the Venado River, which borders the eastern sector, and the Quéquer River, which runs along the western sector of the project. Within the project area there are a large number of streams, many of whose springs are located within the forest areas of the project, and some springs were identified in the pasture areas with forest protection zones around them, also, due to the topography of the land there are several drains that evacuate rainwater from the pasture areas to the permanent watercourses.

	Eligible areas are covered with pasture, with solitary trees of different species which are going to be conserved. *Caño Negro (Los Chiles district)* The farms located in Caño Negro area are at an elevation of 40 – 60 m. above sea level, with a terrain that is flat to slightly undulating, with slopes between 1 and 7%, and with some lower areas that are very susceptible to flooding. The predominant soil type in this area is Acrisol. The farms are in the biome Tropical Rainforest (Bh-T), which is characterized by an annual average precipitation of 2000 - 4000 mm and temperatures between 21.7 – 30.8 ºC. The rainiest months are between May/July to October/November and the least rainy are December/January to March/April. Two of the farms (Caño Negro-21402-1 and Caño Negro-21402-2) are located in the Rio Frio watershed. The Caño Negro river, which is part of this watershed, flows through the southern border of the farm, forming a series of lagoons that are part of the Ranzar site of worldwide interest, called the Caño Negro National Mixed Wildlife Refuge. The other farm (Llano Alegre-21402-1) is located in the middle basin of the Rio Frio. There are no streams or watercourses on the farm, although there are wetlands in the surrounding area; it is part of the buffer zone of the Caño Negro Mixed Wildlife Refuge. About 60% of the eligible areas have improved grass, called Mombasa (*Panicum maxima*), and solitary and sporadic trees of different species that are going to be conserved.
b) Project area rare and/or endangered species	*Cote area (Guatuso district)* The following mammals have been observed nearby the project area: *Odocoinleus virginianus, Pecari tajacu, Canis latrans, Cuniculus* paca (list of species with reduced or threatened populations in Costa Rica[2]), *Tapirus bairdii* (list of endangered wildlife species in Costa Rica) and other small felines. *Caño Negro (Los Chiles district)* The following mammals have been observed nearby the project area: *Odocoinleus virginianus, Pecari tajacu, Canis latrans, Panthera onca* (list of endangered wildlife species in Costa Rica).
c) Species and varieties	The main tree species are the following:

[2] Source: https://www.sinac.go.cr/ES/visasilves/Enlaces%20Inters/05.%20Lista%20especies%20en%20peligro%20de%20extinci%C3%B3n%20y%20poblaciones%20reducidas.pdf

selected for the Project.	*Anacardium excelsum* *Astronium graveolens* *Bursera simaruba* *Cedrela odorata* *Ceiba pentandra* *Cordia alliodora* *Dipteryx panamensis = D. oleifera* *Erythrina poeppigeana* *Gliricidia Sepium* *Guazuma ulmifolia* *Hyeronima alchorneoides* *Inga Spectabilis* *Jacaranda copaia* *Ochroma pyramidale* *Samanea saman* *Schizolobium parahyba* *Simarouba glauca / amara* *Swietenia macrophylla* *Tabebuia guayacan* *Tabebuia rosea* *Terminalia amazonia* *Virola koschnyi* *Vochysia ferruginea* *Vochysia guatemalensis*	
d) Measures and know-how that will be transferred to the host Party	Not applicable.	
e) List the legal title(s) to the land, current land tenure and rights enabling determination of the owner of the GS VERs to be issued.	See section A.1.2.	

A.1.1. Eligibility of the VPA under approved PoA

Table 2 Eligibility for VPA inclusion as per PoA requirements (as per section 3.1.1 of GS4GG Principles & Requirements)

No.	Eligibility Criterion	Description/ Required condition	Description of the VPA in relation to the criteria, Means of Verification and Supporting evidence for inclusion
	1. Types of Project	Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	The project is an Afforestation & Reforestation Project (A/R) with physical implementation on the ground.
	2. Location of Project	Projects will be located in Costa Rica.	The project is located in Costa Rica.
	3. Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a	For Project Area and Boundary: see eligibility criterion 1 in section F. For Project scale: see eligibility criterion 11 in section F. For applicability of methodologies: see eligibility criterion 6 in section F. For double counting: see eligibility criterion 2 in section F. For exclusiveness of VPA: see eligibility criterion 3 in section F.

	similar nature, the Project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects)	
4. Host Country Requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	The Project is in compliance with applicable Host Country´s regulations. **Legal and social regulations:** • The project is not involved in any form of sexual harassment or discrimination based on gender, race, religion, sexual orientation or any other basis. This makes part of the internal company policy "Internal working regulations" (see the document attached: "Reglamento Interno de Trabajo.pdf"), which follows Costa Rican legislation. • The project is not involved or complicit of any form of corruption. Anti-corruption policy is defined in the internal company policy "Internal working regulations" Costa Rica has signed the OECD anti-bribery convention which is

followed by BaumInvest. (See: Costa Rica - OECD Anti-Bribery Convention - OECD).

- Costa Rican employment is regulated by the national labor code, and thus it's the project employment.
- Additionally, Costa Rica has ratified several ILO conventions, among them: forced labor convention, freedom of association and protection of the right to organize convention, right to Organise and Collective Bargaining Convention, equal remuneration convention, abolition of forced labour convention, minimum age convention or worst forms of child labor convention. (Source: Ratifications of ILO conventions: Ratifications for Costa Rica)

Environmental and ecological regulations:

- The project activity does not conceive any commercial timber harvesting. In any case, no timber harvesting activities can take place in the buffer zones of 15 meters on both sides of

		permanent and temporary water bodies in compliance with the costarican water law and forestry laws (see: "Ley 276- Ley de Aguas.pdf" and "Ley 7575 - Ley Forestal.pdf"). • The project activity does not conceive the use of any kind of chemicals. For more details, see safeguarding principles assessment (Appendix 1 of the VPA-DD).
5. Contact Details	As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organisation (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.	See eligible criteria g) Secured Titles in Table 3 in section A.1.1

6. Legal Ownership	Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	See eligible criteria g) Secured Titles in Table 3 in section A.1.1
7. Other Rights	As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example, access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further project implementation in affected areas.	Not applicable
8. Official Development Assistance (ODA) Declaration	All Project Developers applying for project activities located in a country named by the	See eligibility criterion 8 in section F.

	OECD Development Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction & Sequestration Product Requirements and submit the declaration at the time of Design Certification.	

Table 3 Eligibility for VPA inclusion as per PoA requirements (as per section 2.1.1 of GS4GG Land Use & Forests Requirements)

No.	Eligibility Criterion	Description/ Required condition	Description of the VPA in relation to the criteria, Means of Verification and Supporting evidence for inclusion
	(a) Eligible project types	Eligible project types are Afforestation & Reforestation Projects (A/R) and Agriculture Projects (AGR).	The project is an Afforestation & Reforestation Project (A/R). See project description in section A.1.
	(b) No Deforestation	The eligible area shall not meet the definition of forest 10 years before project start date and at project start date.	The eligibility of the planting area is demonstrated by a remote forest/non-forest analysis based on satellite images at the VPA level See attachment: "Final_CR_FNF_Analysis_Report_MR_V2_17052022_updated.pdf"
	(c) In the case when the eligible area has been deforested during the last 10 years prior to project start date, the eligibility of the project shall be determined by Gold	The Project Developer shall provide evidence that the deforestation activity has not taken place with an intention to implement project activities that generate Gold Standard Certified SDG Impact	Not applicable.

Standard as part of the Preliminary Review.	Statements and/or Products, such as GSVERs.	
(d) Double Counting	Projects issuing GSVERs with a vintage of 2021 or later and which are used i) towards an NDC or domestic climate mitigation target other than that of the Host Country; ii) under CORSIA shall conform to the GHG Emissions Reduction and Sequestration Product Requirements - Annex A. Annex A requirements are not applicable for projects generating GS VERs which do not fall under the abovementioned uses.	A letter of authorization from the host country Costa Rica is not needed. Since the GS VERs are not used towards an NDC or domestic climate mitigation target other than that of the Host Country nor used under CORSIA. The project developer has full and uncontested legal ownership of any products, including GSVERs, generated under Gold Standard certification (see A.1.2) The project has unique names for each of the farms/locations. This ensures that none of the farms/locations will be included under more than one project. The list of the unique names of the farms can be seen in the legal ownership description (see A.1.2), as well as in the map "Map01_Project_location.pdf"
(e) Eligible A/R projects	• Can include planting trees • Can include single-species plantations • Can apply all silvicultural systems, e.g. conservation forests (no use of timber); forests with selective harvesting; rotation forestry • All projects can include agriculture (agroforestry) or pasture (silvopasture) activities	The project plant trees and apply conservation forest silvicultural system (no use of timber). Section A.3. provides a brief description of the project activity.

	(f) FSC Dual Certification	Not applicable	Not applicable
	(g) Secured Titles	For all project participants, the following information and evidence shall be provided: (a) Name and contact details (b) Each entity's legal registration number and documentation by the governing jurisdiction that proves that the entity is in good standing. AND (c) For the duration of the crediting period the Project Developer: i. must own the CO2 user rights or carbon sequestration rights for the project area, AND ii. hold an uncontested legal land title for the Project Area, AND iii. own the rights for timber and non-timber forest products for the project area, AND iv. hold all necessary permits to implement the project (planting permits, infrastructure permits, harvesting permits, etc.), AND v. participate in the financing of the project.	The project developer has Legal ownership of the land and products, namely the CO2 user rights, or carbon sequestration rights generated by the VPA. (see section A.1.2).
	(h) Safeguarding Principles & Requirements	The Project Developer shall conduct the Safeguarding Principles assessment following Safeguarding Principles & Requirements and Risks & Capacities Guideline assessed for the Project Area, taking into account likely issues in the context of the Project Region.	The Safeguarding Principles Assessment has been conducted (see Appendix 1 of this document for further details).
	(i) Protected Areas	A minimum of 10% of the total Project Area shall be identified and used	The designated protected areas are located within the project area and are managed by the project developer. They are clearly

	to protect or enhance the biological diversity following High Conservation Value (HCV)7 approach.	identified with GPS coordinates and shapefiles. Eligible areas are going to be planted with native trees species with the purpose of conservation. See section A.3. with a brief description of the project activity.
(j) Buffer zones for water bodies	The Project Developer shall maintain a buffer zone of 15 meters for water bodies on both sides of any permanent or temporary water bodies such as lakes, streams, rivers, wetlands, etc. Irrigation channels are excluded from this requirement.	In these buffer zones, the project complies with the following: (a) All existing native trees will be kept, AND (b) No fertilizer and pesticides will be used, AND (c) No logging activities shall take place, AND (d) No heavy machinery shall be used, AND (e) No cropping is allowed, AND (f) In case trees are being planted, these are going to be native treeSpecies (this will be part of a project management manual which is currently being finalized and be submitted to VVB during the validation)
(k) Stakeholder inclusivity	The Stakeholder Consultation shall be conducted prior to the project start date. The Project Developer shall refer to Stakeholder Consultation Engagement Requirements for further details.	The project fully complies with the the Gold Standard STAKEHOLDER CONSULTATION AND ENGAGEMENT REQUIREMENTS (version 2.0). (See section E). The stakeholder consultations (20/05/2022 and 21/05/2022) have been conducted prior to the project start date (23/05/2022) This has been confirmed with a signed declaration by the partner implementer. See attachement "Acknowledgement project start date.pdf"

(l) crediting period	The crediting period shall be a minimum of 30 years and maximum 50 years. The crediting period starts either with the Project Start Date or three years prior to the date of Project Design Certification, whichever occurs later.	The project crediting period is 40 years. See section C.2.2 of this document.
(m) Verification & Issuance review (Performance Certification)	Verification shall be completed at least every 5 years until the end of the crediting period.	The performance review will take place either alongside or after Project Design Certification and will occur at least once during the 5-year Certification cycle
(o) Additionality	Any VPA shall demonstrate additionality as per the Principles & Requirements, or GHG Emissions Reduction and Sequestration Product Requirements, as applicable.	The project demonstrates additionality with Option 1 – CDM tool. (See section B.5).

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

i. full and uncontested legal ownership of all Products that are generated under Gold Standard Certification

The project owner BaumInvest AG, Talstraße 30, 79102 Freiburg, GERMANY has the full and uncontested legal ownership of the products that are generated under Gold Standard Certification, namely the CO2 user rights, or carbon sequestration rights generated by the VPA. According to Costa Rican law[3], the owner of the land is also the owner of the CO2 sequestration rights. Neither does any potential project partner have the legal right on the project or project areas according to the Costa Rican law, or any rights on the carbon credit certificates generated by the present project, or any other project managed and/or implemented by BaumInvest AG.

ii. legal rights concerning changes in use of resources required to service the Project (e.g water rights)

Not applicable

[3] "Contitucion_Politica_CR.pdf"; "Codigo_Civil_CR_Artículo 253 en Adelante.pdf"

iii. full and uncontested legal land title/tenure required to implement the Project (e.g. A/R projects, see LUF Activity Requirements)

The project owner BaumInvest AG has full and uncontested legal land title/tenure of the project area via the legal entity BaumInvest S.A. which is a 100% subsidiary of the VPA implementer BaumInvest AG.

See attachments:
Proof of ownership for BaumInvest AG of its subsidiaries BaumInvest S.A: BaumInvest SA – proof of ownership.pdf

Proof of uncontested legal land titles in accordance with the farm names in the following table:

Table A.1.2. Correspondence between legal land titles and project farm name

Purchase contract - document name[4]	**Farm name**
"Traspaso_Finca_Grettel_Chaves.pdf"	Llano Alegre-21402-1
"Traspaso_Finca_Grace_Alpizar.pdf"	El Pato-21503-1
"Traspaso_Saul_and_Adrian_Alvardo.pdf"	Quebradon-21503-1; Quebradon-21503-2
"Jorge Araya Deed Transfer.pdf"	Caño Negro-21402-1; Caño Negro-21402-2
"Traspaso_Finca_Ortega_Rodriguez.pdf"	El Pato-21503-2
"Promesa_Venta_Roberth_Perez_1.pdf"; "Promesa_Venta_Roberth_Perez_2.pdf"	Santa Lucia-21010-1
"Traspaso_Finca_Murillo and Co.pdf"	El Pato-21503-3

A.2. Location of VPA

The "Reforestation Project in Costa Rica 01" its located in two geographical regions in the remote Northern Zone of Costa Rica: Caño Negro in Cantón Los Chiles and Cote in Cantón Guatuso. (See detailed project locations with coordinates in the map "Map01_Project_location.pdf" attached).
The properties are clearly delimitated by natural characteristics such as rivers, watersheds, roads or living fences or fences well conserved.

See attachment:

Map: Map01_Project_location.pdf (uploaded to SustainCert Sharepoint)

[4] Documents have been uploaded to SustainCert Sharepoint.

A.3. Technologies and/or measures

The project "Reforestation Project in Costa Rica 01" will restore forest landscapes through targeted reforestation with predominantly site-adapted native tree species and/or human assisted or natural regeneration. The silvicultural system applied will be "conservation forest", which means that no commercial timber harvesting is expected to take place in the project activity.

24 different native tree species will be planted in former pastures. To fulfil silvicultural objectives the choice of tree species has been done according to the project location and considering the tree species own specific requirements in terms of soil, precipitation, temperature and altitude. The planting concept and combination of tree species also considers parameters such as nutrient requirements, space and light conditions, lifetime as well as contribution to biodiversity.

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

- Main planting design: comprises more than 20 tree species. Please note that for different areas, different planting designs might be applied. The project developer is in the process of determining the planting design for some areas.
- Planting only with native tree species in a mixed planting design, that includes pioneer species, secondary species and climax species.
- Life-span of the species varies from 20 (pioneer) to more than 100 years (climax). This is considered in the carbon sequestration calculation.
- Density of 3x4 m (833 trees/ha).
- The establishment of the plantation conceives a combination of seeds and seedlings.

The existing trees in the area to be planted will be preserved, therefore they will not be cut down.

As per the general establishment or working plan, the following weeding, land preparation and planting activities are considered:

- Continuous mechanized or manual weeding of the existing brush and herbaceous vegetation in the area. Results from the shrub biomass assessment (see "Calculation baseline biomass_v0.6xlsx") show <5% shrub crown cover in the farms. However, and as a conservative measure, the baseline shrub biomass has been estimated using the CDM Tool 14 (Estimation of carbon stocks and change in carbon stocks of trees

and shrubs in A/R CDM project activities), and accounted for within the baseline emissions.

- Marking of the planting and/or seeding holes by means of well differentiated stakes (e.g., by means of colors), following the established planting design.
- The planting/seeding hole will be done mechanically or manually when the slope of the terrain does not allow mechanization of the work.
- The planting of seedlings will be done using the seedling bags with rootballs (roots in soil), according to the established planting design.
- For sowing, four seeds of the same species (together with beans nursing the trees) will be placed 3 to 4 cm deep into the prepared, filled planting hole in such a way that the seed is protected and at a depth such that germination is viable. These seeds will be placed following the established planting design.
- The installation or repair of a perimeter fence is considered.

A.4. Scale of the VPA

The long-term CO2-Fixation of the proposed project activity is expected to be 25.000 TCO2e/yr. As per PROGRAMME OF ACTIVITY REQUIREMENTS AND PROCEDURES (Version 2.0), Section 5 "Real Case VPA Requirements", 5.1 Type and scale, Table 4, the project activity is considered "large scale" (> 16.000 tCO2e/yr).

A.5. Funding sources of VPA

The project "Reforestation Project in Costa Rica 01" will be funded by private funding provided by the project owner BaumInvest AG. The CME confirms that no public funding or ODA is involved in the project.

See attachment:
AR_GHGs_ODA-Declaration-Form.pdf

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

B.1. Reference of approved methodology (ies)

- AR GHG Emissions Reduction & Sequestration Methodology v1.0
- LUF AR Methodology Soil Carbon Tool v1.0.
- A/R Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities", Version 01

B.2. Applicability of methodology (ies)

The project meets each applicability condition of the applied methodology:

1. The proposed project apply Gold Standard for the Global Goals Principles & Requirements and all other associated and referenced documents.

2. Projects that include the planting of trees on land that does not meet the definition of a forest at planting start are eligible to apply this methodology. The project area shall meet all of the requirements below for this methodology to be applicable for the calculation of CO2-certificates from the project.

The proposed project intends to actively restore a natural (secondary) forest on former pastureland in the Central North of Costa Rica (Region Huetar Norte) by planting a variety of site-adapted native tree species in close-to-nature mixed stands. According to the results of the spatial forest-non / forest assessment of the planting area, the proposed project does not meet the definition of forest 10 years before project start date and at project start date and is therefore considered to be eligible.

See A.1.1, eligibility criteria b), c) and e).

Projects can apply all silvicultural systems: Conservation forests (no use of timber), forests with selective harvesting, and rotation forestry.

The silvicultural system applied is the "conservation forest" (no use of timber). After the crediting period of 40 years, the total project area will be included in the national protected area program of Costa Rica
See A.1.1, eligibility criteria e).

3. Project Areas shall not be on wetlands.

The project area does not meet the criteria of a wetland as defined by IPCC. The undulating topography and the difference in altitude from 200 to 600 m a.s.l. within the project area does not provide the conditions for wetlands other than creeks. See also: Mapa de los sistemas de humedales para Costa Rica (2018) and Mapa de Sitios Ramsar*

4. Project Areas with organic soils shall not be drained or irrigated (except for irrigation for planting).

Soils in the project area are predominantly Cambisols and Acrisols. Neither drainage nor irrigation will be applied, except for irrigation for planting, if necessary.

5. Soil disturbance (through ploughing, digging of pits, stump removals, infrastructure, etc.) on organic soils shall be in less than 10% of the area that is submitted to certification (not 10% of the entire project area).

As per the forest/non-forest analysis report of the farms, there are only four types of soil within the eligible project area. Two of the soils are HAC soils, and the other two soils are LAC soils, according to the IPCC default soil classes derived from the Harmonised World Soil Data Base. There are no organic soils as per the IPCC soil classification. Hence, this applicability criterion is not applicable.

6. The most likely scenario without the project (baseline scenario) shall be defined for the project area. This scenario shall not show any significant increase of the Baseline biomass ('tree' and 'non-tree').

See A.1.1, eligibility criteria o).

7. Projects shall apply the Gold Standard Land-use Activity Requirements as applicable to A/R Projects.

The project does apply the Gold Standard Land-use Activity Requirements

8. By applying the above mentioned applicability conditions the Project is also eligible to apply the Gold Standard Emissions Reduction and Sequestration Product Requirements.

B.3. VPA boundary

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Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Tree biomass (aboveground and belowground)	CO_2	Yes	Could be a major source of CO2 emissions, however no trees in the baseline scenario will be removed.
		CH_4	No	No significant GHG source
		N_2O	No	No significant GHG source
	Non-tree biomass	CO_2	Yes	GHG emissions from grassland and shrubs will be taken into account as baseline emissions.
		CH_4	No	No significant GHG source
		N_2O	No	No significant GHG source
	Soil	CO_2	No	No significant GHG source in the baseline
		CH_4	No	No significant GHG source
		N_2O	No	No significant GHG source
Project scenario	Tree biomass (aboveground and belowground)	CO_2	Yes	Major source of CO2 sequestration
		CH_4	No	No significant GHG source
		N_2O	No	No significant GHG source
	Soil	CO_2	Yes	Source of CO2 sequestration in the project
		CH_4	No	No significant GHG source
		N_2O	No	No significant GHG source

B.4. Establishment and description of baseline scenario

The baseline scenario is determined by using the latest version of the A/R CDM 'Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities' (version 01).

The most likely land-use scenario in the absence of the project activity - or baseline scenario - would be extensive cattle grazing on pastureland as continuation of the pre-project land-use. This baseline scenario is valid for all project areas (different farms) included under the project activity.

B.5. Demonstration of additionality

As per LAND USE & FORESTS ACTIVITY REQUIREMENTS (Version 1.2.1) section 3.1.16, Option 1 is used to demonstrate project additionality.
The latest version of the A/R CDM 'Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities' (version 01) was applied. The CDM specific terms of the A/R CDM additionality tool (tCERs, A/R CDM project, etc.) are interpreted in the context of Gold Standard. The tool is applicable since the project fulfills the following conditions:

- Forestation of the land does not lead to violation of any applicable law. There is no law in Costa Rica which would prohibit livestock grazing (cattle grazing), agricultural activities or tree planting.
- This tool is applicable since the project is a "large scale project".

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

Step 1. Identification of alternative land use scenarios to the proposed A/R CDM project activity

Sub-step 1a. Identify credible alternative land use scenarios to the proposed CDM project activity
Outcome of Sub-step 1a. List of credible alternative land use scenarios that would have occurred on the land within the project boundary of the A/R CDM project activity.

Alternative land use scenario 1: Continuation of the pre-project land use (extensive cattle grazing) - as the predominant land use in "Región Huetar Norte"5

[5] 32-01_Región_Huetar_Norte_PROCOMER_2008 (p.31 ff.)

Alternative land use scenario 2: Afforestation / reforestation of the land without being registered as an A/R carbon project activity - since 26% of the commercial reforestation area of Costa Rica is located in the "Región Huetar Norte".[6]

Alternative land use scenario 3: Commercial cultivation of pineapples – as the predominant agricultural product of the "Región Huetar Norte", where 68% of the national cultivation area of Costa Rica is located.[7]

[6] 32-02_Reforestacion_comercial_en_CR_UNA-INISEFOR_2019.pdf (p.19)
[7] https://mocupp.org/cultivo-pina/[8] 32-03_Ambientico_2018_Sept_267.pdf (Articulo 4 p. 23)

Figure 1: The most probable and credible land-use scenario in the baseline in Costa Rica's Zona Norte is extensive cattle grazing

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

Outcome of Sub-step 1b. List of plausible alternative land use scenarios to the A/R CDM project activity that are in compliance with mandatory legislation and regulations taking into account their enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations.

All land use scenarios identified in Sub-step 1a are in consistency with enforced mandatory applicable laws and regulations. There is no law in Costa Rica which would prohibit livestock grazing (cattle grazing), agricultural activities (cultivation of pineapples) or tree planting.

Alternative land use scenario 1: Continuation of the pre-project land use (extensive cattle grazing) - as the predominant land use in "Región Huetar Norte".

Alternative land use scenario 2: Afforestation / reforestation of the land without being registered as an A/R carbon project activity - since 26% of the commercial reforestation area of Costa Rica is located in the "Región Huetar Norte".

Alternative land use scenario 3: Commercial cultivation of pineapples – as the predominant agricultural product of the "Región Huetar Norte", where 68% of the national cultivation area of Costa Rica is located.

Step 2. barrier analysis
Sub-step 2a. Identification of barriers that would prevent the implementation of at least one alternative land use scenarios
Outcome of Step 2a. List of barriers that may prevent one or more land use scenarios identified in the Step 1b.

- Investment barriers:

Similar activities (alternative land use scenario 2) have only been implemented with grants (national and international NGOs) or other non-commercial finance terms, as for instance, the „payments for ecosystem services" provided from the Costa Rica government.[89] (See also Step 4)

- Technological barriers:

Lack of resources such seeds of native tree species or know-how are a barrier to launch a large scale natural forest restoration project.[10] [11]

High rates of mortality: In the broad literature work about Direct Seeding in Reforestation-A Field Performance Review from Grossnickle et al. (2017)[12] it was stated that the average mortality rate of trees sawn directly is about 80%. The main factors leading to high failure were discovered to be grass competition, predation through birds, mammals, and pesticides. Furthermore, the tree species were not adapted to the project site and the quality of seed material was bad.

[8] 32-03_Ambientico_2018_Sept_267.pdf (Articulo 4 p. 23)
[9] 32-02_Reforestacion_Comercial_en_CR_UNA-INISEFOR_2019.pdf
[10] 32-06_Fit-for-purpose_seed_supply_systems_Atkinson_2018.pdf (p. 5, 40 ff.)
[11] 32-09_Carta declaratoria semillas forestales_2022-06-23
[12] 32-04_Grossnickle et al_2017.pdf (p. 94)

- Barriers related to local tradition:

Especially on the mountain slopes in the region, where other agricultural land use is rarely possible, cattle grazing is a common and traditional practice for decades.[13] Active reforestation, in particular with native tree species and for conservation purposes is not a common practice on private land all over Costa Rica.[14]

- Barriers due to prevailing practice:

The land use scenario is the "first of its kind": No activity of this type (active natural forest restoration) and size (> 1.000 ha net reforestation area) is currently operational in the host country or region[15]. Although Costa Rica is a pioneer in promoting reforestation by state subsidies (Payments for Ecosystem services), most of the reforestation area is comprised of commercial timber plantations with exotic tree species in monoculture plantations.[16] Larger restoration activities have only been realized in nature conservation areas, e.g., Area de Conservación Guanacaste, with support of international donations. Only in 2021, Costa Rica launched the "Estrategia Nacional de Restauración de Paisajes de Costa Rica 2021 – 2050"[17] defining new and ambitious goals for restoration. BaumInvest AG has already pioneered large-scale commercial timber plantation using almost exclusively native trees species in close to nature mixed stands and will now pioneer active large-scale natural forest restoration.

- Barriers due to social conditions

Land degradation from cattle grazing, especially soil compaction on flat land, as in the Caño Negro / Los Chiles project area, can be a barrier to forest landscape restoration.

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

[13] 32-01_Desarrollo_local_RHN_2011.pdf (p.41, 51, 56 ff.)
[14] 32-02_Reforestacion_comercial_en_CR_UNA-INISEFOR_2019.pdf (p.27 ff.)
[15] 32-05_Cámara Forestal Madera & Industria_2022-06-22.pdf
[16] 32-02_Reforestacion_comercial_en_CR_UNA-INISEFOR_2019.pdf (p.27 ff.)
[17] 32-08_Estrategia Nacional de Restauración de Paisajes de Costa Rica.pdf

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

As an outcome of Step 2, it can be concluded that the only land use scenario, which is not prevented by any barrier is the land use scenario 1: continuation of the pre-project land use (extensive cattle grazing). Although the cultivation of pineapple could be conceivable in the region, the undulating topography or the risk of temporary inundations of the project area offers no suitable conditions.

Therefore, the most likely land-use scenario in the absence of the project activity - or

Figure 2: The proposed project area has been used exclusively as pastureland for extensive cattle ranching with the purpose of meat and dairy production.

baseline scenario - would be extensive cattle grazing as continuation of the pre-project land-use.

Nevertheless, an additional investment analysis has been carried out to determine which of the remaining land use scenarios identified in the Sub-step 2b is the most economically or financially attractive. For this purpose, a simple cost analysis was conducted. (See step 3)

Step 3. Investment analysis

Sub-step 3a. Determine appropriate analysis method

Since the planned A/R project activity generates no financial or economic benefits other than VER related income, we applied the simple cost analysis (Option I).

Sub-step 3b. – Option I. Apply simple cost analysis.

The attached excel file "Simple Cost Analysis" demonstrates that the proposed A/R activity generates no financial benefits other than VER related income and documents

the incomes and costs associated with the land use scenarios that are not prevented by any barrier (Afforestation / reforestation of the land without being registered as an A/R carbon project activity and cattle grazing).

The simple cost analysis and also current studies[18] [19] [20] show that cattle farms would be the most economically attractive land use scenario, regardless if extensively or intensively managed, with or without family labor, if focused rather on milk production or as well on cull, replacement and breeding cows.

Sub-step 3d. Sensitivity analysis.
N/A. Since the project activity does not generate any income, it is clear that even by changing the assumptions in the financial analysis of the alternative "cattle grazing", this latter one would always remain the most economically attractive land use scenario.

Outcome of step 3: Identification of the most economically and/or financially attractive land use scenario within the boundary of the proposed A/R project area according to the most suitable financial indicator, taking into account the results of the sensitivity analysis.
As outcome of Step 3 it can be concluded, that the most economically and/or financially attractive land use scenario within the boundary of the proposed A/R project area – and therefore the most likely land-use scenario in the absence of the proposed A/R project activity (or baseline scenario) - would be extensive cattle grazing as continuation of the pre-project land-use.

Step 4. Common practice analysis.
A reforestation project with only native tree species and the purpose of restoring a forest for conservation cannot provide a realistic land use alternative for the project area without VER certificates or comparable financial incentives. There is a considerable

[18] 01_Villalobos_y_Rivera (2012)
[19] 02_Aylward_et_al. (1999)
[20] 03_Castano_et_al (2008)

number of reforestation projects in the region, but these consist primarily of conventionally managed monoculture timber plantations involving fast growing exotic tree species (teak, gmelina, eucalyptus etc.). These projects represent almost 90% of the total reforestation area in the region. However, these reforestation projects have been subsidised by the State of Costa Rica since 1997 by means of environmental service payments, so-called Pagos por Servicios Ambientales (PSA) in order to guarantee national timber supplies. So far, no other reforestation activity similar to the proposed project in size and species composition could be identified neither in the region nor in the rest of Costa Rica.[21] [22]

Conclusion: The proposed reforestation activity is not the baseline scenario and, hence, it is additional.

B.5.1. Prior Consideration

>> N/A

B.5.2. Ongoing Financial Need

>> N/A

[21] 32-05_Cámara Forestal Madera & Industria_2022-06-22
[22] 32-09_Carta declaratoria semillas forestales_2022-06-23

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)
1- End poverty	1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	• 4 employees with long-term employment contracts subject to social security contributions and wages above the national minimum wage of Costa Rica (who worked at least 3 years for the company).
8 – Decent work and economic growth	8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	• Fulfilment of labour rights for all employees. • Up to 25 employees assisting relevant trainings • Safety equipment for all employees
13 – Climate Action	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	• Nearly 800,000 tCO_2 (around 20,000 tCO_2e/year).
15 – Life on land	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. 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	• 1,030 ha afforested with native tree species • Increase number of herpetofauna present in the project area, and the number of threatened species of herpetofauna.

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

SDG1 - End poverty

The outcome of SDG 1 will be quantified as the number of employees with long-term employment contracts subject to social security contributions and wages above the national minimum wage of Costa Rica (who worked at least 3 years for the company). The baseline scenario is zero, as not jobs were created prior the implementation of the project activity. The net benefit is the difference between the target number of employees with long-term employment contracts, and the baseline number.

SDG8 – Decent work and economic growth

The outcome of SDG 8 will be quantified as the number of employees with i) fulfillment of labor rights, independently of the employment type (temporary, full-time or part-time), ii) assisting trainings in safe and security at work, iii) assisting trainings in other working-related relevant areas, and iv) with safety equipment appropriate for the specific working position generated as a result of the project. The baseline scenario is zero, as not jobs were created prior the implementation of the project activity. The net benefit is the difference between the target number of employees with safe and decent working conditions, disaggregated by gender and migrant status, generated as a result of the project, and the baseline number.

SDG13 – Climate action

The outcome for SDG 13 will be quantified as CO2 sequestration by applying the methodology

GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0. The SDG 13 outcome will be certified as 'Certified SDG 13 Impact Statement' allowing the generation of carbon credits (VERs). The baseline situation was grassland, and therefore the value of 23.6 tCO2/ha (IPCC default value of 16.1 (tdm/ha)[23]; and default factors of 0.4 (tC/tdm) and 44/12 (tCO2/tC) as per the GS A/R guidelines, page 7) is applied. The value is calculated as: 16.1 tdm/ha * 0.4 tC/tdm * 44/12 tCO2/tC = 23.6 tCO2/ha. Since appropriate country-specific estimates for non-tree biomass in grassland were not available, we use international default values for biomass stocks present on aboveground and belowground biomass for grassland provided from IPCC.
The net benefit is the difference between the quantified CO2 sequestration in the project scenario minus the quantified CO2 sequestration in the baseline situation.

SDG15 – Life on land

[23] 2006 IPCC GfNGGI_Grassland.pdf (page 27, table 6.4)

The net benefit of the SDG 15 will be quantified as the difference between target and baseline scenario for hectares (ha.): reforested/afforested and through the increment on the number of fauna species based on a continuous biodiversity monitoring and/or biodiversity indexes.

At least one biodiversity report per performance certification will be generated.

The baseline scenario is:

1. Hectares of pastureland reforestation, protection of natural areas and sustainably managed forests
    - 1,030 ha of pastureland.
2. Enhance biodiversity. Increment on the number of herpetofauna present in the project area, and the number of threatened species of herpetofauna.

We do not have concrete and site-specific information for the baseline (pastureland) on the number of herpetofauna species present yet. However, a first study will be done in June 2022 to assess the concurrence of both amphibian and reptile populations in the baseline scenario.

B.6.2. Data and parameters fixed ex ante

Copy the table for each piece of data and parameter; use headings to group parameter tables by SDG

SDG13

Data/parameter	**Biomass Expansion Factor (BEF)**
Unit	Dimensionless
Description	BEF is the ratio of the total above-ground tree biomass to the biomass of the merchantable timber. BEF is commonly used in converting standing volumes of timber into total carbon stocks. BEF = Aboveground tree biomass/Stem biomass. (Source: GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0).

Source of data

Values for BEF for different species from:

Reference documents	BEF value source	Page	Note
06-02	IPCC LUCLUF, Good Practice Guidance for Land Use,Land-Use Change and Forestry, Annex 3A.1 Biomass Default Tables for Section 3.2 Forest Land	3178	PDF page 28
06-06	Kanninen M., Montero M. M. 2005. Terminalia amazonia; ecología y silvicultura. CATIE Serie Técnica Informe Técnico no. 339	24	PDF page 25 Copyright protected - do not publish file
06-16	Fonseca, G.W. and Alice, G.F. and Rey, J.M.: models for biomass estimation in native forest tree plantations and secondary forests in the Costa Rican Caribbean Region. Bosque, 2009, vol. 30, n.1, pp. 36-47	44	PDF page 9 Copyright protected - do not publish file
06-20	Segura, M; Kanninen, M. 2005. Allometric models for tree volume and total aboveground biomass in a tropical humid forest in Costa Rica. Biotropica. 37(1):2-8.	5 (table 3)	
06-24	Avendaño Reyes, J. 2008. Modelos Genéricos de Biomasa Aérea para Especies Forestales en Función de la Arquitectura y la ocupación del Rodal. Tesis M. Sc. Turrialba, CR. CATIE. 114 p.	34	PDF page 49

Value(s) applied

Tree species	Common names	Values	Sources (see "source of data" above)

			BEF	BEF
	Cedrela odorata	*Cedro Amargo*	1.5	06-02
	Cordia alliodora	*Laurel*	1.26	06-24
	Dipteryx panamensis	*Almendro*	1.5	06-02
	Hyeronima alchorneoides	*Pilón*	1.57	06-16
	Swietenia macrophylla	*Caoba*	1.5	06-02
	Terminalia amazonia	*Roble Coral*	1.2	06-06
	Virola koschnyi	*Fruta Dorada*	1.5	06-02
	Vochysia ferruginea	*Botarrama*	1.5	06-20
	Vochysia guatemalensis	*Cebo*	1.56	06-16
Choice of data or Measurement methods and procedures	Default data values accepted under GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0 (source 06-02). Data values from scientific literature, for some of the forestry species already present in BaumInvest plantations (GS2913). (See sources: 06-24, 06-16, 06-06, 06-20)			
Purpose of data	Calculation of project scenario			
Additional comment				

Data/parameter	**Root-to-Shoot Ratio (Rts)**
Unit	Dimensionless
Description	Root-to-Shoot Ratio (Rts) is the ratio of belowground (root) biomass to aboveground biomass (shoot) biomass.
Source of data	Values for Rts for different species from:

Value(s) applied

Tree species	common names	Values	Sources (see "source of data" above)
		R-t-S	R-t-S
Cedrela odorata	*Cedro Amargo*	0.42	06-01
Cordia alliodora	*Laurel*	0.42	06-01
Dipteryx panamensis	*Almendro*	0.42	06-01
Hyeronima alchorneoides	*Pilón*	0.3	06-16
Swietenia macrophylla	*Caoba*	0.42	06-01
Terminalia amazonia	*Roble Coral*	0.42	06-01
Virola koschnyi	*Fruta Dorada*	0.42	06-01
Vochysia ferruginea	*Botarrama*	0.42	06-01
Vochysia guatemalensis	*Cebo*	0.42	06-01

Choice of data or Measurement methods and procedures	Default data values accepted under GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0. IPCC default value (0.42) from Annex 3A.1 Biomass Default Tables for Section 3.2 Forest Land (Source 06-01). Data values from scientific literature (source 06-16), for the forestry species already present in BaumInvest plantations (GS2913) *Hyeronima alchorneoides*.
Purpose of data	Calculation of project scenario
Additional comment	

Data/parameter	**Carbon fraction for tree biomass**
Unit	tC/tdm
Description	The carbon fraction for tree biomass refers to the total carbon content that it is contained in the tree biomass.
Source of data	Default value as per GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0
Value(s) applied	0.5
Choice of data or Measurement methods and procedures	Default value as per GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0
Purpose of data	Calculation of project scenario
Additional comment	

Data/parameter	**Conversion factor 'C' to 'CO2'**
Unit	tCO2/tC
Description	The conversion factor 'C' to 'CO2' is used to convert the content of carbon to an equivalent content of CO2.
Source of data	Default value as per GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0.
Value(s) applied	44/12

Choice of data or Measurement methods and procedures	Default value as per GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0
Purpose of data	Calculation of project scenario
Additional comment	

Data/parameter	**Baseline non-tree biomass**
Unit	tCO2/ha
Description	Baseline non-tree biomass is the existing biomass in grass, herbs, roots of grass, etc. (any non-tree species) in the most likely scenario without the project (baseline scenario).
Source of data	• The GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0, default factors of 0.4 (tC/tdm) and 44/12 (tCO2/tC). • Methodology; IPCC Guidelines for National GHG Inventories: https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_06_Ch6_Grassland.pdf
Value(s) applied	23.6 tCO2/ha
Choice of data or Measurement methods and procedures	The GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0, section 5. Methodology
Purpose of data	Calculation of baseline scenario
Additional comment	

B.6.3. Ex ante estimation of SDG Impact

SDG1 - End poverty

The net benefit of SDG 1 will be quantified as the number of employees with long-term employment contracts subject to social security contributions and wages above the

national minimum wage of Costa Rica (who worked at least 3 years for the company), minus the number of employees in the baseline scenario.

Calculation of baseline scenario:

The baseline scenario is zero, as not jobs were created prior the implementation of the project activity.

Calculation of project scenario:

Employment records will be used to confirm the number of jobs, wage and social contribution. The sample copy of signed agreements will be provided for verification.

The calculation consists of counting the total number of employees, and disclose the information by employment contract (permanent and temporary), by gender and nationality.

SDG8 – Decent work and economic growth

The net benefit of SDG 8 will be quantified as the number of of employees with i) fulfillment of labor rights, independently of the employment type (temporary, full-time or part-time), ii) assisting trainings in safe and security at work, iii) assisting trainings in other working-related relevant areas, and iv) with safety equipment appropriate for the specific working position generated as a result of the project, minus the number in the baseline scenario.
Calculation of baseline scenario:

The baseline scenario is zero, as not safe and decent working conditions were created prior the implementation of the project activity.

Calculation of project scenario:

Project records like contracts, payment slips, employee list, training assistance or others will serve to count:

- Fulfilment of labour rights for all employees, independently of the employment type (temporary, full-time or part-time).
- Total number of employees assisting trainings in safe and security at work.
- Total number of employees assisting trainings in other working-related relevant areas.
- Description and total number of safety equipment appropriate for the specific working position.

Breaking down these data by gender and migrant status enables an understanding of gender and migrant worker representation.

SDG13 – Climate action

The outcome for SDG 13 will be quantified as CO2 sequestration by applying the methodology "GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0". The net benefit is the difference between the quantified CO2 sequestration in the project scenario minus the quantified CO2 sequestration in the baseline situation.

Calculation of baseline scenario:

The shrub crown cover in the farms is <5% (see "Calculation baseline biomass_v0.6xlsx"). Despite the low cover, and as a conservative measure, the baseline shrub biomass has been estimated using the CDM Tool 14 (Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities), and accounted for within the baseline emissions. The carbon stock in shrubs is estimated as follows:

$$C_{SHRUB,t} = \frac{44}{12} \times CF_s \times (1 + R_s) \times \sum A_{SHRUB;i} + b_{SHRUB,i}$$

$$b_{SHRUB,i} = BDR_{SF} \times b_{FOREST} \times CC_{SHRUB,i}$$

Where:

$C_{SHRUB,t}$ = Carbon stock in shrubs within the project boundary at a given point of time in year t; t CO2-e
CF_s = Carbon fraction of shrub biomass; t C (t.d.m.)$^{-1}$. A default value of 0.47 is used.
R_s = Root-shoot ratio for shrubs; dimensionless. The default value of 0.40 is used.
$A_{SHRUB;i}$ = Area of shrub biomass estimation stratum i; ha
$b_{SHRUB,i}$ = Shrub biomass per hectare in shrub biomass estimation stratum i; t d.m./ha.

BDR_{SF} = Ratio of shrub biomass per hectare in land having a shrub crown cover of 1.0 (i.e. 100 per cent) and the default above-ground biomass content per hectare in forest in the region/country where the project activity is located. A default value of 0.10 is used.
b_{FOREST} = Default above-ground biomass content in forest in the region/country where the A/R CDM project activity is located; t d.m. ha^{-1}. Value 220, from Table 3A.1.4 of IPCC GPG-LULUCF 2003 is used.
$CC_{SHRUB,i}$ = Crown cover of shrubs in shrub biomass estimation stratum i at the time of estimation, expressed as a fraction (e.g. 10 per cent crown cover implies = 0.10); dimensionless.

The result of the shrub baseline scenario is: 882.80 tCO2e (see details in "Calculation baseline biomass_v0.6xlsx").

There are some solitary trees within the eligible areas that are not, and will be not, taken into account for any carbon calculation; as described in the "Baseline shrub biomass assessment for Gold Standard certification SOP" measures are taken as to

mark these existing trees so they will never be accounted as part of the project carbon sequestration.

The baseline situation was grassland. The formula for the baseline scenario calculation is: non-tree biomass (tdm/ha) x Carbon fraction for non-tree biomass (tC/tdm) x conversion from "C" to "CO2" (tCO2/tC). Where:

- Non-tree biomass: 16.1 tdm/ha. Since appropriate country-specific estimates for non-tree biomass in grassland were not available, we use international default values for biomass stocks present on aboveground and belowground biomass for grassland provided from IPCC: 16.1 tdm/ha. (Source: https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_06_Ch6_Grassland.pdf, table 6.4 in page 27).
- Default factors of 0.4 (tC/tdm) and 44/12 (tCO2/tC) as per the GS A/R guidelines, page 7) is applied.

The result of the grassland baseline scenario is: 16.1 (tdm/ha) x 0.4 tC/tdm x 44/12 tCO2/tC = 23.6 tCO2/ha

Leakage:

There is not leakage caused by the project.

The proof that no leakage takes place has been provided through several letters signed by the previous landowners. Those letters have been submitted to the VVB during the validation.

Other emissions:

There are no other emissions caused by the project resulting from land preparation techniques, from the use of fertilisers and energy during project activities, and from nitrogen-fixing trees.

Calculation of project scenario:

1- Estimation of aboveground biomass by using, for each single species and data source, the following seven allometric equations:

- $AGB = 38.4908 - 11.7883 \times DBH + 1.1926 \times DBH^2$ (Brown et al. 1989).
- $AGB = \exp(-2.4090 + 0.9522 * \ln(DBH^2 \times H \times p))$ (Brown et al. 1989).
- $AGB = \exp(-2.289 + 2.649 \times \ln(DBH) - 0.021 \times \ln(DBH)^2)$ (Brown 1997).
- $AGB = \exp(-2.977 + \ln(p \times DBH^2 \times H))$ (Chave et al. 2005).
- $AGB = p \times \exp(-1.499 + 2.148 \times \ln(DBH) + 0.207 \times (\ln(DBH))^2 - 0.0281 \times (\ln(DBH))^3)$ (Chave et al. 2005).
- $AGB = 0.0673 \times (p \times DBH^2 \times H)^{0.976}$ (Chave et al. 2014).
- $AGB = 0.091 \times DBH^{2.472}$ (World Agroforestry Centre – ICRAF).

Where:

p = species wood density (g/cm3).

DBH = diameter at breast height (cm.)

H = total tree height (m.)

And, additionally, the Gold Standard LUF formular for CO2-fixation:

Stem volume (m3) x BEF x (1+ Root-to-Shoot) x Wood density x Carbon fraction x C-to-CO2

Where (as per Gold Standard afforestation/ Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology v1):

Biomass Expansion Factor (BEF): 1.5 (used for some species, when there is not species specific BEF found in the literature)

Root-to-Shoot ratio (R-t-s): 0.42 (used for some species, when there is not species specific BEF found in the literature)

Carbon fraction: 0.5 (tC/tdm)

Conversion from carbon to CO2 (C-to-CO2): 44/12 (tCO2/tC)

2- Outlier analysis per allometric equation in order to disregard outliers.

3- Average the value of the carbon sequestration (t/tree.year) per allometric equation.

4- Conversion of the values of carbon sequestration (t/tree.year) to tons of carbon dioxide equivalent (tCO2/tree.year) per allometric equation, by using the default values (as per Gold Standard afforestation/ Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology v1) of BEF, R-t-s, carbon fraction and conversion from carbon to CO2.

5- Average of the results of the seven equations to estimate the most plausible or realistic carbon sequestration per species (tCO2/tree.year).

6- Estimation of the carbon sequestration for each species and per ha and year (tCO2/ha.year), by multiplying the realistic carbon sequestration (tCO2/tree.year) with the planting design tree density (trees/ha).

7- Estimation of eligible plantable area by discounting 12%[24] of the total eligible area (1,171.8 ha) determined in the Forest/non-forest assessment. This 12% discount accounts for any areas that we cannot plant due to existing trees, wet areas, paths to be created within the farms to move around or for maintenance. The discount is based on the technical expertise and technical assessments conducted during the

[24] The exact discount is 12.10%, however for simplicity the down-rounded value of 12% has been indicated.

farm site visits by RCR, the company who assists BaumInvest in the execution of the project. The eligible plantable area is therefore estimated in 1,030 ha.

Once the implementation activities including planting will have been finalised in all of the farms, the CME will update the eligible plantable area in shapefiles, as well as in the other relevant project documentation. This information will be available and verifiable on-site at the time of verification.

8- Then, multiplying the carbon sequestration of each species (tCO2/ha.year) per the total modelling unit (MU) area (ha.) we can obtain the carbon sequestration (tCO2/year) per species. The final claimed area of any MU will be the final eligible area planted.

9- For each MU, and with the sum of each species carbon sequestration along the 40 years crediting period, we can obtain the total carbon sequestration (tCO2).

Calculation of soil organic carbon (SOC):

For the estimation of SOC, the GS4GG Tool "for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities" v01.1.0 was used. The soil carbon is for the project conditions set in: 0.3575 (tCO2/ha.year) for HAC soils and 0.2585 for LAC soils, which amounts a steady-state of 6,446.15 after 20 years.

For more details, please see the carbon sequestration excel sheet "403_V1.0_0.7_LUF_AR Methodology_Soil Carbon Tool_MRe_v0.3".

SDG15 – Life on land

The net benefit of the SDG 15 will be quantified as:

- the difference between target and baseline scenario for hectares (ha.): reforested/afforested and protected as forest conservation areas.
- the increment on the number of fauna species based on a continuous biodiversity monitoring and/or biodiversity indexes.

Estimation of baseline scenario:

- hectares (ha.) reforested/afforested = 0 ha.
- number of fauna species = *to be estimated in June 2022 through a baseline survey.*

Calculation and estimation of project scenario:

- hectares (ha.) reforested/afforested = 1,030 ha.
- number of fauna species = expected increment on the concurrence of both amphibian and reptile populations, increment in biodiversity (by using biodiversity indexes), and increment on the concurrence of IUCN Red List status species within the project area.

Estimated net benefit:

- hectares (ha.) reforested/afforested = 1,030 ha.
- number of fauna species = We expect that after the 40-years crediting period the values of these estimates will be similar as to those of existing secondary forests nearby the project areas.

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

SDG 1

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0	4	4
Year 2	0	4	4
Year 2	0	4	4
Year 4	0	4	4
Year 5	0	4	4
Year 6	0	4	4
Year 7	0	4	4
Year 8	0	4	4
Year 9	0	4	4
Year 10	0	4	4
Year 11	0	4	4
Year 12	0	4	4
Year 13	0	4	4
Year 14	0	4	4
Year 15	0	4	4
Year 16	0	4	4
Year 17	0	4	4
Year 18	0	4	4
Year 19	0	4	4
Year 20	0	4	4
Year 21	0	4	4
Year 22	0	4	4

Year 23	0	4	4
Year 24	0	4	4
Year 25	0	4	4
Year 26	0	4	4
Year 27	0	4	4
Year 28	0	4	4
Year 29	0	4	4
Year 30	0	4	4
Year 31	0	4	4
Year 32	0	4	4
Year 33	0	4	4
Year 34	0	4	4
Year 35	0	4	4
Year 36	0	4	4
Year 37	0	4	4
Year 38	0	4	4
Year 39	0	4	4
Year 40	0	4	4
Total	**0**	**4**	**4**
Total number of crediting years	**40**		
Annual average over the crediting period	0	**4**	**4**

SDG 8

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0	25	25
Year 2	0	20	20
Year 2	0	15	15

Year 4	0	7	7
Year 5	0	5	5
Year 6	0	4	4
Year 7	0	4	4
Year 8	0	4	4
Year 9	0	4	4
Year 10	0	4	4
Year 11	0	4	4
Year 12	0	4	4
Year 13	0	4	4
Year 14	0	4	4
Year 15	0	4	4
Year 16	0	4	4
Year 17	0	4	4
Year 18	0	4	4
Year 19	0	4	4
Year 20	0	4	4
Year 21	0	4	4
Year 22	0	4	4
Year 23	0	4	4
Year 24	0	4	4
Year 25	0	4	4
Year 26	0	4	4
Year 27	0	4	4
Year 28	0	4	4
Year 29	0	4	4
Year 30	0	4	4
Year 31	0	4	4
Year 32	0	4	4
Year 33	0	4	4
Year 34	0	4	4

Year 35	0	4	4
Year 36	0	4	4
Year 37	0	4	4
Year 38	0	4	4
Year 39	0	4	4
Year 40	0	4	4
Total	**0**	**4**	**4**
Total number of crediting years	**40**		
Annual average over the crediting period		4	4

Note: The project estimate is higher during the more labour intensive first years of the project, and stabilize to a steady value over the crediting period. The project estimate annual average over the crediting period has been conservatively approximated to this steady value.

SDG 13

Year	Baseline estimate	Project estimate	Net benefit
Year 1	25,205	27,837	2,106
Year 2	0	27,837	22,270
Year 2	0	27,837	22,270
Year 4	0	27,837	22,270
Year 5	0	27,837	22,270
Year 6	0	27,837	22,270
Year 7	0	27,837	22,270
Year 8	0	27,837	22,270
Year 9	0	27,837	22,270
Year 10	0	27,837	22,270
Year 11	0	27,837	22,270
Year 12	0	27,837	22,270

Year 13	0	27,837	22,270
Year 14	0	27,837	22,270
Year 15	0	27,837	22,270
Year 16	0	27,837	22,270
Year 17	0	27,837	22,270
Year 18	0	27,837	22,270
Year 19	0	27,837	22,270
Year 20	0	27,837	22,270
Year 21	0	27,515	22,012
Year 22	0	27,515	22,012
Year 23	0	27,515	22,012
Year 24	0	27,515	22,012
Year 25	0	27,515	22,012
Year 26	0	27,515	22,012
Year 27	0	27,515	22,012
Year 28	0	27,515	22,012
Year 29	0	27,515	22,012
Year 30	0	27,515	22,012
Year 31	0	27,515	22,012
Year 32	0	27,515	22,012
Year 33	0	27,515	22,012
Year 34	0	27,515	22,012
Year 35	0	27,515	22,012
Year 36	0	27,515	22,012
Year 37	0	9,863	7,890
Year 38	0	9,863	7,890
Year 39	0	9,863	7,890
Year 40	0	9,863	7,890
Total	**25,205**	**1,036,430**	**808,980**

Total number of crediting years	**40**

Annual average over the crediting period			**25,911**	20,224

Note: total project estimate (tCO2/ha) includes SOC; total net benefit of carbon sequestration (tCO2/ha) is the result of the project total estimate (including SOC) with discount of baseline and buffer (20%); project estimate annual average over the crediting period (tCO2/ha and year) is the total project estimate divided by the crediting period; net benefit annual average over the crediting period (tCO2/ha and year) is the total net benefit divided by the crediting period.

SDG 15

Target 15.2

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0	1,030	1,030
Year 2	0	1,030	1,030
Year 2	0	1,030	1,030
Year 4	0	1,030	1,030
Year 5	0	1,030	1,030
Year 6	0	1,030	1,030
Year 7	0	1,030	1,030
Year 8	0	1,030	1,030
Year 9	0	1,030	1,030
Year 10	0	1,030	1,030
Year 11	0	1,030	1,030
Year 12	0	1,030	1,030
Year 13	0	1,030	1,030
Year 14	0	1,030	1,030
Year 15	0	1,030	1,030
Year 16	0	1,030	1,030
Year 17	0	1,030	1,030
Year 18	0	1,030	1,030

Year 19	0	1,030	1,030
Year 20	0	1,030	1,030
Year 21	0	1,030	1,030
Year 22	0	1,030	1,030
Year 23	0	1,030	1,030
Year 24	0	1,030	1,030
Year 25	0	1,030	1,030
Year 26	0	1,030	1,030
Year 27	0	1,030	1,030
Year 28	0	1,030	1,030
Year 29	0	1,030	1,030
Year 30	0	1,030	1,030
Year 31	0	1,030	1,030
Year 32	0	1,030	1,030
Year 33	0	1,030	1,030
Year 34	0	1,030	1,030
Year 35	0	1,030	1,030
Year 36	0	1,030	1,030
Year 37	0	1,030	1,030
Year 38	0	1,030	1,030
Year 39	0	1,030	1,030
Year 40	0	1,030	1,030
Total	**0**	**1,030**	**1,030**

Total number of crediting years	**40**			
Annual average over the crediting period			**1,030**	**1,030**

SDG 15

Target 15.5

Year	Baseline estimate	Project estimate	Net benefit
Year 1	59	63	4
Year 2	59	63	4
Year 2	59	63	4
Year 4	59	63	4
Year 5	59	63	4
Year 6	59	67	8
Year 7	59	67	8
Year 8	59	67	8
Year 9	59	67	8
Year 10	59	67	8
Year 11	59	75	16
Year 12	59	75	16
Year 13	59	75	16
Year 14	59	75	16
Year 15	59	75	16
Year 16	59	79	20
Year 17	59	79	20
Year 18	59	79	20
Year 19	59	79	20
Year 20	59	79	20
Year 21	59	83	24
Year 22	59	83	24
Year 23	59	83	24
Year 24	59	83	24
Year 25	59	83	24
Year 26	59	87	28
Year 27	59	87	28
Year 28	59	87	28
Year 29	59	87	28
Year 30	59	87	28

Year 31	59	90	31
Year 32	59	90	31
Year 33	59	90	31
Year 34	59	90	31
Year 35	59	90	31
Year 36	59	90	31
Year 37	59	90	31
Year 38	59	90	31
Year 39	59	90	31
Year 40	59	90	31
Total	**59**	**90**	**31**
Total number of crediting years	**40**		
Annual average over the crediting period		**79**	20

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

(Copy the table for each piece of data and parameter; use headings to group parameter tables by SDG)

SDG 1

Data / Parameter	**SDG 1 - End poverty / target 1.2**
Unit	Numeric
Description	Number of employees with long-term employment contracts subject to social security contributions and wages above the national minimum wage of Costa Rica (who worked at least 3 years for the company)
Source of data	Payroll accountings; HR department

Value(s) applied	The baseline scenario is zero, as not jobs were created prior the implementation of the project activity. The net benefit is the difference between the target number of employees with long-term employment contracts, and the baseline scenario. The project value is 4. The baseline scenario is 0 (as no jobs were created prior the implementation of the project activity). See project assessment and estimated values on "430_V1.0_IQ_SDG-Impact-Tool_v0.4.xlsx"
Measurement methods and procedures	Employment records will be used to confirm the number of jobs, wage and social contribution. The sample copy of signed agreements are provided for verification.
Monitoring frequency	At the time of performance certification.
QA/QC procedures	Employment records and sample copy of agreements
Purpose of data	Determine the number of people employed due to the project activity and earning a salary above the minimum national level and benefitting of social insurance.
Additional comment	

SDG 8

Data / Parameter	**Decent work and economic growth**
Unit	Numeric
Description	The outcome of SDG 8 will be quantified as the number of employees with: i) fulfillment of labor rights, independently of the employment type (temporary, full-time or part-time), ii) assisting trainings in safe and security at work, iii) assisting trainings in other working-related relevant areas, and iv) with safety equipment appropriate for the specific working position,

	generated as a result of the project.
Source of data	Project records like contracts, payment slips, employee list, training assistance or others.
Value(s) applied	The baseline scenario is zero, as not jobs were created prior the implementation of the project activity. The net benefit is the difference between the target number of employees with safe and decent working conditions, disaggregated by gender and migrant status, generated as a result of the project, and the baseline number. Project values are high (around 50) on the first year, and decrease until 2 at the end of the crediting period. See project assessment and estimated values on "430_V1.0_IQ_SDG-Impact-Tool_v0.4.xlsx" The baseline scenario is 0 (as no safe and decent jobs were created prior the implementation of the project activity).
Measurement methods and procedures	NA
Monitoring frequency	At the time of performance certification.
QA/QC procedures	Employee list will be cross-checked with contracts/payment slips, training assistance or others. This data will be disaggregated by gender and migrant status.
Purpose of data	Determine the total number safe and decent working conditions by gender and migrant status generated as a consequence of the project.
Additional comment	

SDG 13

Data / Parameter	SDG 13 Climate Action / target 13.1
Unit	t CO2e / ha /year
Description	Emission reductions / natural carbon removals through reforestation of former pastureland measured in t CO2e /ha/year

Source of data	Calculation of carbon performance based on forest inventories. Project monitoring report
Value(s) applied	21 tCO2e/ha.year (including SOC and after 20% buffer)
Measurement methods and procedures	Mean annual carbon fixation measurements based on forest inventories or other methods of measuring growth performance, such as satellite or drone-assisted remote sensing methods provided they are approved by GS4GG.
Monitoring frequency	Minimum every 5 years according to GS4GG requirements.
QA/QC procedures	Forest inventory guideline GS A/R GHG Emissions Reduction & Sequestration Methodology, version 1.0
Purpose of data	Determine the emission reductions / natural carbon removals due to the project
Additional comment	

SDG 15

Data / Parameter	SDG 15 Life on Land / target 15.2
Unit	Area in hectare (ha)
Description	Hectares (ha) of degraded pastureland reforested with predominantly native tree species.
Source of data	GPS data, maps / shapefiles, satellite / drone images
Value(s) applied	1,030 ha afforested/reforested.
Measurement methods and procedures	Project monitoring report
Monitoring frequency	Minimum at the time of performance certification
QA/QC procedures	
Purpose of data	Determine the area (ha) of forest restored.
Additional comment	

Data / Parameter	SDG 15 Life on Land / target 15.5

Unit	Numeric: % increase/decrease in the number
Description	Number of herpetofauna, and the number of threatened species of herpetofauna present in the project area.
Source of data	Field surveys data will be assessed in Biodiversity reports. Project monitoring report.
Value(s) applied	We estimate a project value of: 90 number of species of herpetofauna at the end of the crediting period, equivalent to an increase by 50%. The inventory of the herpetofauna for the baseline scenario resulted in a total of 59 amphibian and reptile species recorded during the survey period in the five project areas. See project assessment and estimated values on "430_V1.0_IQ_SDG-Impact-Tool_v0.4.xlsx"
Measurement methods and procedures	Biodiversity report (elaborated by the Senckenberg Forschungsinstitut und Naturmuseum).
Monitoring frequency	Minimum at the time of performance certification.
QA/QC procedures	Increment on the number of herpetofauna species and endangered herpetofauna species based on a continuous biodiversity monitoring and/or biodiversity indexes. The increment in biodiversity is monitored at least every 5 years, if not more frequently, starting at the latest at the time of 1st performance certification. The monitoring is done at the beginning of the rainy season by carrying out a series of repetitive records of wildlife alongside diurnal and nocturnal transects. Transects are located in all the farms according to a series of characteristics and with a specific length for each farm. The monitoring is done by a combination of techniques that allow to compare the dynamic of herpetofauna assemblages in grassland and forest. This is monitored through biodiversity reports elaborated by the Senckenberg Forschungsinstitut und Naturmuseum. BaumInvest will make the QA/QC of the final product.

Purpose of data	See the expected trend towards an increase on the number of herpetofauna species within plantations.
Additional comment	BaumInvest has already a relationship with the Senckenberg Forschungsinstitut und Naturmuseum as monitoring partner of the biodiversity in two other farms under BaumInvest Reforestation Project (GS2913).

Stakeholder mitigation measures

Data / Parameter	**Road improvement**
Unit	-
Description	Maintain and improve again the conditions of the roads if any damage is done as a consequence of the project.
Source of data	GPS data, maps / shapefiles, satellite / drone images, photographs.
Value(s) applied	-
Measurement methods and procedures	Regular reporting of the project farms and plantations.
Monitoring frequency	After works in project plantations (e.g., planting or seeding, re-planting) have finalized.
QA/QC procedures	After works in project plantations (e.g., planting or seeding, re-planting) have finalized, the responsible person within the project development team will elaborate a report which includes an evaluation of the state of the roads. This evaluation shall consider the baseline situation of the roads within and adjacent to the farm boundaries, and the situation after the works have finalized. If any damage has been done because of the project, the maintenance and improvement of the roads will be trigger within the next 6 months or when the weather conditions allow.
Purpose of data	Comply with stakeholder mitigation measures
Additional comment	

Data / Parameter	**Wildlife damage prevention**
Unit	-
Description	Any potential damage of dears in the project area will be mitigated by providing trainings to the local forest ranger on how to deal with wildlife
Source of data	Training documentation (including attendance and date) within H&R department.
Value(s) applied	-
Measurement methods and procedures	H&R documentation
Monitoring frequency	Yearly H&R documentation
QA/QC procedures	As a minimum, a training should be given at the beginning of the employment of the local forest ranger. Any training will be documented within the H&R company´s documentation.
Purpose of data	Comply with stakeholder mitigation measures
Additional comment	

Data / Parameter	**Fire risk mitigation by constant surveillance**
Unit	-
Description	The project will employ a forest ranger in place that can quickly react to a potential fire. A training on how to react in the event of a forest fire will be given.
Source of data	Training documentation (including attendance and date) within H&R department.
Value(s) applied	-
Measurement methods and procedures	H&R documentation
Monitoring frequency	Yearly H&R documentation

QA/QC procedures	As a minimum, a training should be given at the beginning of the employment of the local forest ranger. Any training will be documented within the H&R company´s documentation.
Purpose of data	Comply with stakeholder mitigation measures
Additional comment	

Data / Parameter	**Mitigation of potential increased in hunting by constant surveillance**
Unit	-
Description	Against the potential increased in hunting inside the project area, the project will employ a forest ranger in place for control. The forest ranger job description includes the constant surveillance of the project, including a potential increased in hunting within the project
Source of data	H&R department
Value(s) applied	-
Measurement methods and procedures	H&R documentation
Monitoring frequency	Yearly H&R documentation
QA/QC procedures	
Purpose of data	Comply with stakeholder mitigation measures
Additional comment	

B.7.2. Sampling plan

SDG13, target 13.1, which refers to emission reductions or natural carbon removals through reforestation of former pastureland (in t CO2e /ha/year), will be estimated by a sampling approach.

Please, see company´s preliminary Forest inventory guideline in "Forest inventory guideline_EN_v1.1.pdf" for further description of the strata determination and sampling

plan. A fully updated forestry inventory guideline including the project stratification will be submitted to VVB during validation.

B.7.3. Other elements of monitoring plan

The PD elements of monitoring are based on leadership by multi-headed interdisciplinary and international Management-Team, with an internal reporting structure. The focus is on defined processes and roles rather than on personal intrinsic know how; with the responsibility divided on several positions throughout group-structure, under the "four-eyes" principle, and with back-up for crucial processes, and regular internal capacity building. The PD capacities and Know-How are located within internal specialist staff as well as external services providers, both exchangeable if required.

Data collection and data archiving within BaumInvest Sharepoint are treated under different SOPs. An example is BaumInvest own Forest inventory guideline. This guideline is based on the Carbon Fix Guidelines for forest inventory and covers topics such as how permanent sample plots are determined in the field, how the plantation stratification is done, or how to take field measurements. There is a specific annex for quality and control on data collection and data transfer and processing.

With regards to data uncertainty, BaumInvest Standard Operating Procedures (SOPs) follow the Uncertainty Assessment as per Annex A of the LUF Requirements.

Please, see company´s Forest inventory guideline in "Forest inventory guideline_EN_v1.2.pdf".

The project developer is still in the process of finalizing the specific project forest and monitoring plan. This plan will be presented to the VVB during validation and submitted to SC for design review. Nonetheless, following paragraph 5.11.6 of the PoA requirements and procedures, the forest and monitoring plan:

- Includes the monitoring of the forest establishment.
- Describes potential risks and mitigation measurements including measures to minimize leakage.
- Includes SOPs and Q/A for monitoring and control.

Note that there is no tree harvesting planned for the project activity. Since it consists of a conservation forest. Some pruning and thinning might be possible.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1. Start date of VPA

23/05/2022

Date on when the first trees were planted.

C.1.2. Expected operational lifetime of VPA

The operational lifetime of the VPA its at least 40 years, but will continue beyond that time as the natural conservation forest established will be donated to the Costa Rican government to be part of the national protected areas.

C.2. Crediting period of project

C.2.1. Start date of crediting period

23/05/2022

C.2.2. Total length of crediting period

40 years; end date of crediting period: 23/05/2062

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1. Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in Appendix 1, ongoing monitoring is summarised below.

Principles	Mitigation Measures added to the Monitoring Plan
Principle: Endangered species Mitigation measure: The "Number of herpetofauna, and the number of threatened species of herpetofauna present in the project" is monitored. See section B.7.1.	

As per the complete Safeguarding Principles Assessment done in Appendix 1, none of the principles is relevant to the project, and thus none of them needs to be monitored. Based on the assessment questions and taking into account the project context, one comes to the conclusion that no expert stakeholder opinion is needed.

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

Question 1 – Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The Project takes into account gender roles and the abilities of women and men to participate in the decision/designs of the project activities. For example, the stakeholder consultation in the project design phase includes both women and men participating in the consultation meeting
Question 2 – Explain how the project aligns with existing country policies, strategies and best practices	The project activity doesn't endorse any form of discrimination based on gender. Costa Rica has ratified ILO Conventions 100 (Equal Remuneration Convention) and 111 (Discrimination (employment

	and occupation) Convention)[25]. Women can participate to the project and will therefore not put at risk women's or any other marginalized groups access to or control of resources, entitlements and benefits.
Question 3 – Is an Expert required for the Gender Safeguarding Principles & Requirements?	An expert is not needed since Gender is adequately addressed in the Safeguarding principles assessment.
Question 4 – Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	An expert is not needed since the consultations do not present any particular challenge from a Gender perspective.

25 https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102599 (accessed on 24/10/2020)

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

The 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

As mitigation measure against:

- Any possible damage done to roads, the project its committed to maintain and improve again the conditions of the roads.
- Any potential damage of dears in the project area will be mitigated by providing trainings on how to deal with wildlife.
- fire risks, the project will employ a forest ranger in place that can quickly react to a potential fire.
- Potential increased in hunting inside the project area, the project will employ a forest ranger in place for control.

BaumInvest has committed himself to the following:

- Support initiatives to improve the condition of a road in Cabanga area (near the project location), and bridges. BaumInvest could support the initiative by talking to the municipality in charge of doing this.
- Plant some single fruit trees in the boundary areas, as they are of importance for animals.
- Support the sensibilization of the community towards environmental awareness by giving some lectures in the schools about this topic.

E.2. Final continuous input / grievance mechanism

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)	Cabanga Community Center, Address: 50 north of La Cabang cementery, Guatuso. Caño Negro Community Center, Address: North side of the Caño Negro sports plaza, Los Chiles.

GS Contact (mandatory)	help@goldstandard.org
Other	Telephone & whatssapp: +506 2460-0908 (central office in Costa Rica). Internet/email access: hola@bauminvest.cr; https://bauminvest.cr/

SECTION F. **Eligibility and inclusion criteria for VPAs inclusion**

>>

The below table shall be completed for all VPAs.

The CME shall provide clear description on how eligibility criteria set at real case VPAs are complied with for each real case and regular VPAs submitted for inclusion.

The CME shall not change the eligibility criteria and required condition set at real case VPAs. At the time of inclusion of regular VPAs, the CME shall only describe how the regular VPAs comply with the eligibility criterion.

No.	Eligibility Criterion	Description/ Required condition	Description of the VPA in relation to the criteria, means of Verification/Supporting evidence for inclusion
1	Geographical boundaries	Geographical boundaries of VPas consistent with the geographical boundary of the PoA.	The project is set in Costa Rica, which its consistent with the PoA geographical boundary. The shapefile of the farms included in the VPA with clear boundaries have been checked. It can be confirmed that all farms are within the jurisdictional boundary of Costa Rica. Detailed project locations with GPS coordinates can be found in the map "Map01_Project_location.pdf" submitted to SustainCert.
2	Double Counting	Conditions to avoid double counting of Impacts	The project has unique names for each of the farms/locations. This ensures that none of the farms/locations will be included under more than one project. The project developer has full and uncontested legal ownership of any products, including GSVERs, generated under Gold Standard certification (see A.1.2).

			The list of the unique names of the farms can be seen in the legal ownership description (section A.1.2 of this document), as well as in the map "Map01_Project_location.pdf", and in BaumInvest farm database.
3	Exclusiveness of VPA	The VPA shall not previously be registered as a project activity or included as a VPA in any other registered PoA or deregistered as a VPA of a PoA.	CDM, Verra (VCS) and GS registries have been checked. It can be confirmed that the VPA is not included in another PoA, nor registered as a standalone activity and is also not a deregistered VPA
4	Specification of the technology/measure such as the level and type of service, as well as performance specification based on, inter alia, testing/certification	N/A, since information is already provided in criterion 12.	N/A
5	Start Date	The project start date shall be the earliest date when the first trees are planted. The start date of any proposed VPA will be on or after the start date of the PoA.	The project start date (23/05/2022) is after the PoA start date. The project start date has been confirmed with a signed declaration by the project implementing entity, which contains photographs evidencing the first trees planted. See attachement "Acknowledgement project start date.pdf"
6	Applicability of the methodologies	The only methodology used for VPAs under the PoA is "LUF_AR-Methodology-GHGs-emission-reduction-and-Sequestration-Methodology". The tool "LUF AR Methodology Soil Carbon Tool" is used in order to calculate the Soil Organic Carbon.	Compliance with the methodology applicability criteria is demonstrated in section B.2. of this document.

7	Conditions to ensure that VPAs meet the requirements for demonstration of additionality	For demonstration of additionality, one of the two options will be applied: Option 1: Latest version of A/R Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities Option 2: Latest version of Positive list (as per 3.1.16, (b) of the Land Use & Forests Activity Requirements).	The project demonstrates additionality with Option 1. The latest version of the GS approved CDM tool has been checked in the CDM website[26] The steps towards the determination of additionality can be found in section B.5 of this document.
8	Conditions to ensure no diversion of official development assistance	Affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance	Signed AR_GHGs_ODA-Declaration-Form from VPA Implementer (at the same time CME) confirming that there is no diversion of official development assistance. (Please, see attachment: 501_V2.0_AR_GHGs_ODA-Declaration-Form_v0.1_2022-05-11.pdf)
9	Target group	N/A	N/A
10	Conditions related to sampling requirements for the PoA	Any VPA will follow the sampling requirements for forest inventories described in the LUF_AR-Methodology-GHGs Emission Reduction & Secuestration Methodology.	Sampling requirements are outlined in section B.7.2 of this document, and further detailed in the company forest inventory guideline (Please, see attachment: Forest invent guideline_EN_v1.1.pdf)
11	Scale of the VPA Conditions to ensure that VPAs that will be included meet the small-scale or	Any VPA following the smallholder or microscale scheme will follow the requirements for LUF Smallholder & Microscale	As it is demonstrated in section A.4 of this document, the project is considered as large scale (> 16,000 tCO_2e/year).

[26] https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-02-v1.pdf/history_view

	microscale thresholds and remain within those thresholds throughout the crediting period	Projects as outlined in Annex B of the AR LUF Activity Requirements.	
12	Conditions to confirm that technologies in VPAs are eligible (refer to A.3 above)	• Can include planting trees • Can include single-species plantations • Can apply all silvicultural systems; e.g. conservation forests (no use of timber); forests with selective harvesting; rotation forestry • All projects can include agriculture (agroforestry) or pasture (silvopasture) activities	The project will plant trees creating a conservation forest (no use of timber). Section A.3. provides a brief description of the project activity.
13	Conditions to be met by each VPA regarding SDG outcomes assessment	SDG outcomes, and the methods of monitoring these outcomes, are defined in the VPA-DD Section B.6. The option a) of paragraph 5.6.2 of the PoA requirements and procedures is chosen.	The Project includes a description of the SDG outcomes in section B.6., and in section B.7. the details on how to monitor the SDGs
14	Conditions to be met by each VPA regarding safeguarding principles	Summary of Safeguarding Principles, and the methods of monitoring these principles, are defined in the VPA-DD Section D.1. The option a) of paragraph 5.5.2 of the PoA requirements and procedures is chosen.	The Project includes a Safeguarding Principles Assessment in Appendix 1 of this document. A summary is provided in section D.1.
15	Conditions to be met for retroactive VPAs	• Retroactive VPAs shall submit the required documents to Gold Standard within five years of its start date (time of first submission).	Not applicable since the Project is a regular project, i.e. not retroactive.

- Retroactive VPAs shall demonstrate that the revenues from Gold Standard Certified SDG Impact Statements or Products, such as GSVERs, were seriously considered in the decision to implement the project, AND

- there was continuous interest in Certified Impact Statements or Products for the project in parallel with its implementation.

- The maximum period for retroactive issuance is three years – which starts either with the Project Start Date or three years prior to the date of Project Design Certification, whichever occurs later.

- New areas added to retroactive projects must follow the requirements for retroactive issuance as per the Principles and Requirements, GHG Emissions Reductions & Sequestration Product Requirements, and the Requirements stated in this document.

16	Conditions to be met for inclusion in this multi-country PoA	Geographical boundaries of VPAs must be consistent with the multi-country PoA boundaries	The project area of the VPA is located within the political boundaries of Costa Rica, which its consistent with the multi-country PoA boundaries. The shapefile of the farms included in the VPA with clear boundaries have been checked. It can be confirmed that all farms are within the jurisdictional boundary of Costa Rica. Detailed project locations with GPS coordinates can be found in the map "Map01_Project_location.pdf" submitted to SustainCert.
17	Conditions to ensure that VPA meets general eligibility criteria	Conditions to ensure that VPA meets general eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements and general eligibility criteria as per section 2.1.1 of GS4GG Land Use & Forests Requirements	The Project complies with all eligibility criteria as outlined in section A.3. of the PoA-DD. See section A.1.1 of the present document which demonstrates the compliance with the criteria.
18	Conditions to ensure that VPA follows the guidelines to conduct a spatial forest/non-forest assessment	Every VPA to be included under the PoA shall not meet the definition of forest 10 years before project start date and at project start date. In the case that the eligible area has been deforested during the last 10 years prior to the project start date, the VPA implementer shall provide evidence that the deforestation activity has not taken place with an intention to implement project activities that generate GS VERs. The Guidelines as per Annex C of the Land Use & Forests Activity Requirements should be followed.	A remote sensing report with the forest/non-forest analysis conducted by an external expert has been submitted to SustainCert. The Guidelines as per Annex C of the Land Use & Forests Activity Requirements has been followed.
19	Conditions on crediting period	Every VPA shall make sure that the crediting period of	The crediting period of this VPA is 40 years, hence it is

		the VPA shall not exceed the end of the duration of the PoA, which is for forestry PoAs 50 years.	ensured that the crediting period of the VPA does not exceed the end of the duration of the PoA. See section C.2.2 of this document.
20	Conditions related to stakeholder consultation	A local stakeholder consultation (LSC) following the Stakeholder Consultation and Engagement Requirements has to be carried out for each VPA or A group of VPAs in case that the applicability requirements included in paragraph 5.7.3. of the PoA Requirements are complied with.	A LSC has been carried out for this VPA. For more details, see the LSC report submitted to SustainCert.
21	Conditions to specify the approach to address non-permanence	Every VPA shall outline in the Land Use & Forests Risks & Capacities Guideline the non permanence approach.	The Land Use & Forests Risks & Capacities Guideline outlining the non-permanence approach has been submitted to SustainCert.
22	Approach chosen for VVB site-visits in view of inclusion of future regular VPAs	A validation on-site visit will be conducted by the VVB for each VPA, unless GS requirements allow an exception of a VVB site visit or a deviation request has been approved by GS.	A VVB validation on-site visit will be conducted for this VPA and is planned for end of June 2022.
23	Conditions to ensure a standard operational procedure (SOP) for managing the input and grievance mechanism	Every VPA shall adhere to the SOP for managing the input and grievance mechanism outline in the PoA Management System Manual, or describe in detail any necessary deviation of the SOP to better adjust to the specific VPA conditions.	This VPA will adhere to the SOP for managing the input and grievance mechanism described in the PoA Management System Manual.
24	Conditions to ensure the systematic description of the specific design of the real case VPA.	Every VPA shall describe, as per section 5.2.2 of the Programme of Activity Requirements: a) the present environmental conditions of the area planned for the Forestry VPA, including the climate,	Information a) to e) is described in section A.1 Purpose and general description of project of the present VPA-DD.

	hydrology, soils and ecosystems b) Describe the presence, if any, of rare and endangered species and their habitats c) Describe the species and varieties selected for the Forestry VPA d) Describe the measures and know-how that will be transferred to the host Party, if applicable e) Describe or list the legal title(s) to the land, current land tenure and rights enabling determination of the owner of the GS VERs to be issued for the Forestry and AGR VPAs.	

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 below.

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
Principle 1. Human Rights			
1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights 2. The Project shall not discriminate with regards to participation and inclusion	**1- Yes**. Mandatory requirement **2- Yes**. Mandatory requirement	1. The project developer takes care that the project respects internationally proclaimed human rights and is not complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights. Costa Rica has	

		ratified many UN Human Rights conventions[27]. 2. Participation in the project (e.g. in form of employment) is open to anyone in the area without discrimination of gender, religion or sexual orientation. So far, no cases of discrimination have been identified. See internal company policy "Internal working regulations" (see document "Reglamento Interno de Trabajo.pdf").	
Principle 2. Gender Equality			
1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on	**1- Yes**. Mandatory requirement **2- Yes**. Mandatory requirement	1. It is not either foreseen that the Project would adversely affect man and women in marginalized or vulnerable communities.	

[27] https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?CountryID=41&Lang=EN (accessed on 24/10/2020)

gender equality and/or the situation of women 2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work 3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks 4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)	**3- Yes**. Mandatory requirement	2. The Project takes into account gender roles and the abilities of women and men to participate in the decision/designs of the project activities. For example, the stakeholder consultation in the project design phase includes both women and men participating in the consultation meeting. 3. The project activity doesn't endorse any form of discrimination based on gender. Costa Rica has ratified ILO Conventions 100 (Equal Remuneration Convention) and 111 (Discrimination (employment and occupation) Convention)[28]. Women can participate to	

[28] https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102599 (accessed on 24/10/2020)

		the project and will therefore not put at risk women's or any other marginalized groups access to or control of resources, entitlements and benefits.	
Principle 3. Community Health, Safety and Working Conditions			
1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	**Yes**. Mandatory requirement	The project activity doesn't expose the community to increased health risks and is not adversely affecting the health of workers and the community. For example, the workers participating in the project activity are not exposed to unsafe or unhealthy work environments as the planting and maintenance activities on the plantations will not include any hazardous chemicals or other hazardous material (see "Forest Management Plan_v01.pdf").	
Principle 4.1 Sites of Cultural and Historical Heritage			

Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture? >>	**No**. The project activity doesn't include sites, structures or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture.		
Principle 4.2 Forced Eviction and Displacement			
Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)? >>	**No**. The PPs hold uncontested legal land titles for the areas. No population displacement is foreseen nor desirable because people from the nearby communities is employed for establishment and maintenance activities and help to ensure the project success.		
Principle 4.3 Land Tenure and Other Rights			
a. Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	**a) No**. The Project doesn't require any change to land tenure		

b. For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership? >>	arrangements and/or other rights. The PPs hold uncontested legal land titles for the areas. **b) N/A.**		
Principle 4.4 - Indigenous people			
Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples? >>	**No**. There are no indigenous people present in or within the area of influence of the project. The project is not located on land/territory claimed by indigenous people		
Principle 5. Corruption			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	**Yes**. Mandatory requirement	The Project doesn't involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects. The Project is implemented on PP's own land holding uncontested legal land titles for the areas Anti-corruption policy is defined in the internal company policy	

		"Internal working regulations". Costa Rica has signed the OECD anti-bribery convention which is followed by BaumInvest (Se: Costa Rica – OECD Anti-Bribery Convention – OECD[29]).	
Principle 6.1 Labour Rights			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions 2. Workers shall be able to establish and join labour organisations	**1- Yes**. Mandatory requirement **2- Yes.** Mandatory requirement **3- Yes.** Mandatory requirement **4- Yes.** Mandatory requirement **5- Yes.** Mandatory requirement	1. The Project is implemented on PP's own land holding uncontested legal land titles for the areas. The employees' rights are a cross-cutting issue and respected by Bauminvest (see "Reglamento Interno de Trabajo.pdf"). Costa Rica has ratified many ILO Conventions, amongst others convention 87 (Freedom of Association and Protection of the Right	

[29] https://www.oecd.org/corruption/costarica-oecdanti-briberyconvention.htm

3. Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND c) Remuneration (must include provision for payment of overtime), AND d) Modalities on health insurance, AND e) Modalities on termination of the contract with provision for		to Organise Convention) and convention 98 (Right to Organise and Collective Bargaining Convention)[30]. 2. Workers can at any time establish or join labour organisations (see "Reglamento Interno de Trabajo.pdf", and "Codigo_Trabajo_RPL.pdf"). Regarding the project management, the necessary staff has been hired following labour laws accordingly. 3. The working agreements with the individual workers will be documented and implemented and the minimum requirements stated in the section of GS4GG Safeguarding Principles & Requirements	

[30] https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102599 (accessed on 24/10/2020)

voluntary resignation by employee, AND f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) 5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures		will be respected whenever applicable. 4. All the possible staff hired by the project implementer has a minimum age of 18. Costa Rica has ratified ILO Conventions 138 (Minimum Age Convention) and 182 (Worst Forms of Child Labour Convention)[31]. 5. All the works will be made by using appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.	

[31] https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102599 (accessed on 24/10/2020)

Principle 6.2 Negative Economic Consequences			
1. Does the project cause negative economic consequences during and after project implementation?	**No.** The project has in any case positive economic consequences derived from the employment of local people.		
>>			
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	**No**. The project will reduce the GHG emissions as it will be monitored and verified in line with the GS4GG.		
>>			
Principle 7.2 Energy Supply			
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	**No**. Energy supply for BaumInvest AG, with main office located in Freiburg (Germany), and BaumInvest S.A. with main office in Costa Rica (located in Ciudad Quesada) uses energy from a national or regional grid.		
>>			

	The main energy supply needed within the plantations´area is for the machinery use for the establishment and maintenance of plantations and infrastructure. Therefore, the main energy required is fuel.		
Principle 8.1 Impact on Natural Water Patterns/Flows			
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity? >>	**No**. The Project does not change or impact the flow of any water body. No dam is planned as part of the Project. It is not expected that the Project negatively affect the groundwater. On the contrary, increased vegetation through planted trees enables a better water infiltration, having positive impacts on the availability of groundwater. The Project does not consider the irrigation of		

	plantations, plantations are naturally irrigated by rainwater. The only water required is the one used in the nurseries for watering the seedlings.		
Principle 8.2 Erosion and/or Water Body Instability			
a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	**No**. It is expected that forest plantations of the Project contribute to soil stability, hence the project activity will actually contribute to reduce the risk of erosion and/or Water Body Instability		
>>			
Principle 9.1 Landscape Modification and Soil			
Does the Project involve the use of land and soil for production of crops or other products?	**No**. The Project doesn't involve the use of land and soil for production of crops or other products. However, intercropping may take		
>>			

	place within the plantation areas.		
Principle 9.2 Vulnerability to Natural Disaster			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions? >>	**Potentially** The Project is potentially susceptible to extreme climatic conditions as flooding or droughts, but risk mitigation measures reduce vulnerability. In contrary, regrowing forest landscapes will lead to decreased vulnerability to natural desasters..		
Principle 9.3 Genetic Resources			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	**No**. The Project doesn't involve / or be negatively impacted by the use of genetically modified organisms or GMOs.		

>>			
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	**No**. The Project is not potentially resulting in release of pollutants to the environment.		
>>			
Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	**No**. The Project is not involving the manufacture, trade, release, and/or use of hazardous chemicals and or materials.		
>>			
Principle 9.6 Pesticides & Fertilisers			
Will the Project involve the application of pesticides and/or fertilisers?	**No**. The Project does not conceive the application of any kind of pesticides and/or fertilisers. The use of any kind of chemical goes against BaumInvest project principles.		
>>			

	Under extraordinary circumstances the use of pesticides might be temporarily and locally considered if and where necessary. In this situation, the use of biological pesticides has preference over any other conventional pesticide.		
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests? >>	**No**. The project objective and silvicultural method applied is "Conservation Forest", and therefore does not conceive the harvesting of forests.		
Principle 9.8 Food			
Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	**No**. The Project doesn't modify the quantity or nutritional quality of food available.		

>>			
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry? >>	**No**. The Project doesn't involve animal husbandry.		
Principle 9.10 High Conservation Value Areas and Critical Habitats			
Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified? >>	**No**. The project does not negatively affect or alter intact or HCV ecosystems, critical habitats, landscapes, key biodiversity areas. On the contrary, the project will protect biodiversity through the conservation of natural habitats and enhancing habitat connectivity.		
Principle 9.11 Endangered Species			
a. Are there any endangered species identified as potentially being present within the Project boundary	**Yes** The green macaw (*Ara ambiguus*), classified as endangered species within	The project (forest restoration) will help the endangered species being protected. Since it creates	The "Number of herpetofauna, and the number of threatened species of herpetofauna

(including those that may route through the area)? b. Does the Project potentially impact other areas where endangered species may be present through transboundary affects? >>	the IUCN Red List 32, can potentially be present within the project area. This species feeds with preference on the yellow almond tree (*Dipteryx panamensis*) between September and April, and nests in this species as well as in botarrama (*Vochysia ferruginea).* There could be more endangered species in the project area. A biodiversity study on herpetofauna will be carried out in June 2022, providing with a list of species seen in the baseline scenario, and classified (if applicable) under the appendix I, II and III of the CITIES list.	the habitat for those endangered species.	present in the project" is monitored. See section B.7.1.

[32] https://www.iucnredlist.org/

APPENDIX 2- CONTACT INFORMATION OF VPA IMPLEMENTER

Organization name	BaumInvest AG
Registration number with relevant authority	Handelsregister B Traunstein under N° HRB 25574
Street/P.O. Box	Talstraße 30
Building	
City	Freiburg im Breisgau
State/Region	
Postcode	79102
Country	Germany
Telephone	+49 (0) 761 429 999 75
E-mail	info@bauminvest.de
Website	https://bauminvest.de/
Contact person	Antje Virkus (CEO)
Title	
Salutation	Ms.
Last name	Virkus
Middle name	
First name	Antje
Department	
Mobile	
Direct tel.	+49 (0) 761 429 999 75
Personal e-mail	a.virkus@bauminvest.de

APPENDIX 3- LUF ADDITIONAL INFORMATION

Risk of change to the Project Area during Project Certification Period:	Risks of change to the project area described as low as the PPs hold uncontested legal land titles for the areas.
Risk of change to the Project activities during Project Certification Period:	Risks of change to the project activities are described as low. The budget plan provides sufficient funding for the implementation of the project.
Land-use history and current status of Project Area:	Both Project areas are located in the "Región Huetar Norte", where extensive livestock raising is the predominant land-use, followed by the commercial cultivation of pineapples. The Project area has been used exclusively as pastureland for extensive cattle ranching with the purpose of meat and dairy production. As a result from this land-use, the eligible project area is covered by grassland prior the project start.
Socio-Economic history:	The "Región Huetar Norte" socio-economic history is characterized by the agriculture in the cultivation of important products such as rice, corn, bananas, oil palm, sugar cane and citrus fruits. Livestock activities are also practiced extensively. In the secondary sector, the industry is related to agriculture and therefore presents Agroindustry in the processing of beans, oranges, pineapple, rice and forestry exploration.
Forest management applied (past and future)	The forest management to be applied will consist of: land preparation, tree nursery, planting, replanting, continuous weed and

	pest control to ensure the survival of the seedlings and the success of the reforestation. Activities such as harvesting are not foreseeing. Further project activities tend to prevent illegal logging and other disturbances of the new established forest and adjacent old-growth and secondary forest remnants within the project area. See: "Forest Management Plan_v01.pdf"
Forest characteristics (including main tree species planted)	The main characteristics of the forest plantation are the following: • Planting design: comprises 24 native tree species. • Planting only with native tree species in a mixed planting design, that included pioneer, secondary and climax species. • Density of 3x4 m (833 trees/ha). • The establishment of the plantation conceives a combination of seeds and seedlings. The main tree species are the following: *Anacardium excelsum* *Astronium graveolens* *Bursera simaruba* *Cedrela odorata* *Ceiba pentandra* *Cordia alliodora* *Dipteryx panamensis = D. oleifera* *Erythrina poeppigeana* *Gliricidia Sepium* *Guazuma ulmifolia* *Hyeronima alchorneoides* *Inga Spectabilis*

	Jacaranda copaia *Ochroma pyramidale* *Samanea saman* *Schizolobium parahyba* *Simarouba glauca / amara* *Swietenia macrophylla* *Tabebuia guayacan* *Tabebuia rosea* *Terminalia amazonia* *Virola koschnyi* *Vochysia ferruginea* *Vochysia guatemalensis*
Main social impacts (risks and benefits)	The project activity provides secure employment and fair working conditions for the local population in these rural areas of northern Costa Rica. All employees are subject to social insurance contributions and accident assurances are being paid. Since land tenure is generally well-regulated in Costa Rica and the landowners hold uncontested legal land titles for the project area, which is properly registered in the cadastral registry, no negative social impacts or risks of the proposed project activity are to be expected.
Main environmental impacts (risks and benefits)	In terms of environmental impacts predominantly benefits are being expected. The afforestation/reforestation project activity aims to create a diverse secondary forest in the mid- and long-term. Within the project area there are as well remaining old-growth and secondary forest and wetlands. These areas serve as habitat and biological corridors for many rare and endangered wildlife species of the diminishing Atlantic lowland rainforests in

	Central America – particularly since the project area is close to the "Parque Nacional Volcán Tenorio" and "Corredor Biológico Ruta Los Malecu" Since predominantly native tree species are planted in mixed stands, also the plantation itself provides important wildlife habitats. By using *Dipteryx panamensis* as one of the main tree species planted, the project contributes specifically to the survival of this threatened tree species of Costa Rica. Furthermore, the existence of the project with people working in these remote areas and promoting environmental education helps to reduce illegal logging, poaching and animal trading. Lastly, the reforestation of fallow and pastureland contributes to protect water catchment areas and improve water quality.
Financial structure	The project is financed by a private investor.
Infrastructure (roads/houses etc):	Please, see in shapefiles attached in: "Poblados2014crtm05.zip"
Water bodies:	Please, see in shapefiles attached in: "Roads_rivers.zip"
Sites with special significance for indigenous people and local communities - resulting from the Stakeholder Consultation:	The project activity doesn't include sites, structures or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture. Neither has any site with special significance for local communities been identified during the Local Stakeholder Consultation.

Where indigenous people and local communities are situated:	There are no indigenous people situated within the project area. Communities involved in the project: 1) The project area located in Cote (Cantón Guatuso) is in the vicinity of the small villages of Cabanga and Pejibaye. Organizations involved in the project area are: Integral Development Association ("Asociacion de Desarrollo Integral") of La Cabanga and Pejibaye, Grupo Escuela Cabanga and Seguridad Comunitaria Cabanga. 2) The project area located in Caño Negro (Cantón Los Chiles) is in the vicinity of the small village Caño Negro. Organizations involved in the project area are: Integral Development Association ("Asociacion de Desarrollo Integral") of Caño Negro, SINAC, Grupo Escuela Caño Negro, and Padres de la Escuela San Antonio.
Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance:	There are no such sites within the project area except of forests and wetlands which have a certain ecological significance. Wetlands are shown in the shapefiles: Roads_rivers.zip Forest are inside the project boundary and outside the eligible areas in the shapefiles: Eligible_Areas.zip Project_Area.zip (See attached).

APPENDIX 4-SUMMARY OF APPROVED DESIGN CHANGES

Please refer to Design Changes Requirements for more information on procedures governing Design Changes

Revision History

Version	Date	Remarks
2.0	4 May 2022	
1.1	7 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
1.0	10 July 2017	Initial adoption