Gold Standard

Gold Standard for the Global Goals
Transition Annex
(To be used by all GS CDM/VER stand alone projects and PoAs, Micro Scale stand alone projects and Micro PoAs)

Gold Standard for the Global Goals

Version 1 – September 2017

KEY PROJECT INFORMATION

Title of Project/PoA/Activity:	CO2OL Tropical Mix
GS ID of the project/PoA/activity:	2940
GS Version:	GS Version 0.9 A/R
Brief description of Project:	Degraded land, originally forest land, later used for extensive cattle ranching, is reforested with mostly native tree species and gradually converted into mixed forests. The project provides for sustainable timber production and cocoa cultivation; it protects biodiversity and restores a healthy forest ecosystem. Sustainable forest management and cocoa production offer employment opportunities, therefore improve the economic and social situation of rural communities and families. Moreover, the project helps to promote mutual learning and knowledge transfer. CO2OL Tropical Mix has been one of the first in line to be successfully certified under the renowned Gold Standard for land use and forestry projects; the cocoa production areas have been the first agroforestry systems to be certified under the Gold Standard.
Project type: Energy/Land Use	Land Use
For Renewable Energy Projects – intention to apply RECs Labels (y/n)	n.a.
GS Stream (CDM/VER):	VER
Scale (large/scale/micro):	medium
GS Registration Date:	06.09.2013
GS Crediting period start date:	1995
CDM Registration Date:	n.a.
CDM Crediting period start date:	n.a.
Project Developer:	ForestFinest Consulting GmbH
Project Representative:	Mr. Julian Ekelhof / Mr. German Rodriguez
Project Participants and any communities involved:	Eco Cebaco S.A. Forest Finance S.A. Sustainable Timbers S.A.
Host Country/Location:	Panama
Methodologies applied:	Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology
SDG Impacts:	• SDG1: No Poverty - End poverty in all its forms everywhere • SDG8: Decent Work and Economic Growth - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all • SDG12: Responsible Consumption and Production - Ensure sustainable consumption and production patterns • SDG 13: Climate Action - Take urgent action to combat climate change and its impacts

	• SDG 15: Life on Land - Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Estimated amount of SDG Impact (GSVERs and others)	SDG1: Economic and impact extent. 5 local communities or 1,000 people benefited directly and indirectly SDG 8: More than 150 people employed, working on average 40 hours per week, and at least 1 training per year conducted (training 150 employees) SDG 12: Around 8.32 m^3/year/ha volume of sustainable timber with timber sales up to 1025 m^3, and 34 tones cocoa verified and certified by GS, FSC and UTZ SDG13: 17.63 tCO_2e /ha/year GS VERs SDG15: 8,450.14 ha of degraded lands restored and planted through A/R and Sustainable Forest Management activities. Around 5,000 ha of conservation areas
For Land-use & Forest Projects only – delete if irrelevant	
Size of the Project Area and Planting Area [submit shape file]:	Project area: 13242.31 ha Planting area: 8450.14 ha
Risk of change to the Project Area and/or land title during Project Certification Period:	Low risk due to a previous analysis before acquiring and including the area to the project. An efficient sustainable management combined with the active participation of important national and international stakeholders is a key element to demonstrate transparency and permanence of the project activities during 30 years crediting period.
Risk of change to the Project activities during Project Certification Period:	Low risk due to a previous analysis before acquiring and including the area to the project. An efficient sustainable management combined with the active participation of important national and international stakeholders is a key element to demonstrate transparency and permanence of the project activities during the crediting period.
Land-use history and current status of Project Area:	Current situation: Before the project activity started, the baseline of the project area was a mix of grassland and pioneer shrubs. All these areas were evaluated and classified as applicable planting areas for reforestation and agroforestry activities. Other small patches of forest left were classified and nowadays managed as conservation areas. Other areas (previously planted or due to the project activity) located in the border of a river or other watersheds are also classified as conservation areas. The project main goal is to create forests and some farms are already one. This will stay during the crediting period Land-use history: http://countrystudies.us/panama/46.htm
Socio-Economic history:	Current situation: It is quite common that the areas that were bought for the project were not managed efficiently by the previous owner due to investment and know-how barriers. A part of the previous owners decides to sell the land and migrate to the cities, start

	a new business in the region, or invest in education, among others. Our experience had revealed how reforestation and agroforestry activities, that are established in different rural areas can be effective support to alleviate regional poverty, promote regional know-how, increment capacity building and be a key element for socio-economic development, by providing directly and indirectly jobs. Socio-economic history: http://countrystudies.us/panama/41.htm http://countrystudies.us/panama/44.htm TMIX14-APP1-Analisis historial Fincas
Forest management applied (past and future)	The objective of the project is producing high-quality hardwoods at the same time as sequestering a high amount of carbon while stabilizing and restoring fragile and degraded areas in an economically, socially, and ecologically viable way. In contrast to common reforestation schemes, the project concept is a concept that makes use also of native tree species in a mix with a round of non-native species, mostly Teak (Tectona grandis) of approx. 50-60%, to create sustainable and species-rich forests with the use of high-quality hardwoods and the creation of an additional income from carbon credits. These carbon offset credits can be traded on international carbon markets will be certified according to high-quality carbon standards Overall, the project-specific objectives are the establishment of profitable production- and conservation systems, enabling the enterprises to work in a beneficial way through the creation of investment opportunities, which are economical, ecologically and socially sound. Creating year-round work opportunities in the areas of activity that allow the development of a stable work environment for women and men, will support the development of these regions.
Forest characteristics (including main tree species planted)	According to the management plan the project is stratified in three main activities: 1. Reforestation with native and exotic tree species for commercial purposes. The following species are planted: Anacardium excelsium, Astronium graveolens, Bombacopsis quinata, Cedrela odorata, Dalbergia retusa, Dipterix panamensis, Hyeronima alchorneoides, Swetenia macrophylla, Tabebuia guayacan, Khaya senegalensis, tabebuia rosea, Terminalia Amazonia and Tectona grandis. 2. Reforestation with native species for conservation purposes: some specific areas and MU are only planted with native species (see species mentioned above) to accomplish this activity 3. Agroforestry with cacao mixed with shadow native tree species: Theobroma cacao and

	Inga sp are the main species that can be found in the respective Agroforestry MUs.
Main social impacts (risks and benefits)	The main social benefits of the project are: a) Poverty alleviation: many persons in rural areas are obligated to migrate to the cities due to the lack of regional job opportunities. b) Equal rights: the company has a multicultural team and a mix of people with equal rights without gender discrimination. c) Capacity building: the employees and also neighbors are continuously learning about the importance of and significance of sustainable activities and the importance of climate change mitigation. Some low risks of the project are: a) Poverty alleviation: the increase in income in rural areas might lead to the use of unsustainable resources; therefore, the project is investing also in capacity building including topics to encourage a sustainable lifestyle. b) Equal rights: a multicultural team requires also the need of having a comprehensive and tolerant perception. The project encourages the teamwork of the employees investing in yearly external activities.
Main environmental impacts (risks and benefits)	The main environmental benefits of the project are: a) Building new forests: reforestation with a mix of native tree species is a key element to obtain an important synergy between the different natural resources existing in the area, and increase the protection of those basic elements: retaining water in the trees and soil to prevent flooding, prevent soil erosion protecting the nutrients and soil microelements, provide shelter to migratory and native animals and insects, reduces the risk of pests diseases or outbreaks, reduce of pesticides, increase biodiversity. b) Forest Conservation: through this activity the project ensures forest connectivity creating small corridors that impact positively the interconnectivity of different regional natural ecosystems. c) Climate change: it is a climate project focus on mitigation strategies with the aim of fighting global warming. Some low risks of the project are: a) Climate impact: climate change exacerbates strong winds, fires, pest damage and/or flooding disasters. Even though the project is aware of these situations and is ready to react, different animals and insect species that form part of this ecosystem can be

	affected. b) Project implementation: during the planting year, the soil has to be prepared manually and with small machinery. In this sense, the previous soil habitat can be affected. However, after this activity, the soil is protected during the rotation period and the creation and conservation of organic soil compensate such impact. c) Thinning and harvesting: there is a risk of affecting existing understory vegetation. However, the main impact is in small bushes that recover really fast.
Financial structure	The project has a large number of private investors with a legal contract allowing them to clearly identify the part and percentage of their share inside the project. This includes a transparent process to provide land tenure titles, specify the owners of the resources inside the project (wood, CO_2 and other resources). Further the project participants cooperate directly with CO2OL (part of ForestFinest Consulting GmbH) for the certification management and sale of carbon credits. The management expertise of this cooperation is a must to administrate the funds effectively, chose wisely the technical team for operational management and guarantee the permanence of the project and therefore guarantee the predicted revenue from the project activity to all the persons that are part of a successful international cooperation.
Project Area:	TMIX19-SHP1.rar
Planting Area:	TMIX19-SHP1.rar
Eligible Planting Area:	TMIX19-SHP1.rar
Modelling Units:	TMIX19-SHP1.rar
Infrastructure (roads/houses etc):	TMIX19-SHP1.rar
Water bodies:	TMIX19-SHP1.rar
Sites with special significance for indigenous people and local communities - resulting from the Stakeholder Consultation:	TMIX19-SHP1.rar – Project are out of indigenous areas
Where indigenous people and local communities are situated:	TMIX19-SHP1.rar Areas indicating indigenous, administrative limits, road and poblados (local communities) have been included. The auditor also received the aforementioned shapefiles and visited many farms – see audit report-.
Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance:	Not detected– Project are out of indigenous areas
Evidence that Project Boundary is clearly distinguishable in the field:	See: TMIX19-SHP1.rar

	Areas indicating indigenous, administrative limits, road and poblados (local communities) have been included. The auditor also received the aforementioned shapefiles and visited many farms – see audit report-. Most of the farms are fenced. The Isla Cebaco area is not fenced but as these farms are based on an island, the difference between reforested and managed areas and other areas is obvious. The auditor had no problem to clearly see the farms that are part of the TMIX project as all farms are managed, planted in lines, and have a sign at the entry which shows the project owner and name of the farm.

NOTE: *This Annex shall be used for all PoAs if the sustainable development assessment is conducted at PoA level. In case sustainable development assessment is conducted at activity level, then this Annex shall be filled for each of the activities.*

SECTION A Sustainable Development Goals (SDG) outcomes

A.1 Relevant target for each of the three SDGs

>> *(Specify the relevant SDG target for at least each of three SDGs addressed by the project. Refer most recent version of targets here. Contribution to SDG 13 is mandatory to be demonstrated for all projects and activities. Contribution to SDG 7 is recommended to be demonstrated for all community service projects and activities)*

- SDG 1: No Poverty - End poverty in all its forms everywhere

Target 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

Indicator: Percentage increase or compensation based on the minimum wage rules

Target 1.4: By 2030, ensure that all men and women, in particular, the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

Indicator: Number of local communities or people benefited from the project´s investments

See:
TMIX19_SustainableTimber_Informe FSC 2018. Pages 16, 24.
TMIX19_FM_PUB_ForestFinancePanama_061219_SPA.pdf. Page 16
TMIX19_RESUMEN PÚBLICO_2019 ver. final_16.04.2019. Pages 20-24
TMIX19_12Tree-Panama-Boca del Monte- DRAFT Social impact assessment 2018_02_21
TMIX19_Donación al Grupo ALFA
TMIX19_Donacion al IDIAP
TMIX19_DONACION COLEGIO LAS LAJAS MARZO 6 DE 2017 (4)
TMIX19_Donación Promoción 2016
TMIX19_Donation for sports team's san lorenzo
TMIX19_I Informe Proyeccion Social CEBG Las Vueltas

For additional information please refer to the Folders:
TMIX19_FF
TMIX19_SDGs
TMIX19_SDGs\TMIX19_Adjunto documentos de apoyo social de FOFIPA

- SDG 8: Decent Work and Economic Growth - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Target 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

Indicator: Employment generated due to project activity and development

Indicator: Working hours per week (m/w), including overtime

Indicator: Number of training or workshops provided to the employees

See:
TMIX19_FF_work contract_Rogelio Juarez
TMIX19_SustainableTimber_Informe FSC 2018. Page 16.
TMIX19_FM_PUB_ForestFinancePanama_061219_SPA.pdf. Page 9
TMIX19_Copia de DetallePlanilla-40638933 feb 19(14100)
TMIX19_Pago de Caja de Seguro Social
TMIX19_Capacitación impactos ambientales SW (2)
TMIX19_RESUMEN PÚBLICO_2019 ver. final_16.04.2019.pdf. Pages 19, 21, 23
TMIX19_Planilla 19-25.04.2019 Pan Bom
TMIX19_CAP_FSC, SEGURO, DESECHO
TMIX19_Capacitación Trazabilidad y cadena de custodia
TMIX19_CONTRATO ANGEL CACERES
TMIX19_CONTRATO JAIME PALACIO
TMIX19_Informe de Capacitacion 29-10-2018-Certificacion Forestal-FF
TMIX19_INFORME CAPACITACION PA-TORTI
TMIX19_lista de capacitaciones 2018-actualizado
TMIX19_Actividad de capacitaciones VIH, papiloma ergonomia y cuidado de la espalda, Conjuntivitis 2018 finca de Rio Uyama Quebrada Limón
TMIX19_img611
TMIX19_img614 - copia
TMIX19_img618

For additional information please refer to the Folders:
TMIX19_FF
TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA CACAO
TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA CACAO\TMIX19_6.capacitaciones
TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA CACAO\ TMIX19_13. Pagos, planillas, contratos
TMIX19_SDGs
TMIX19_SDGs\TMIX19_Adjunto documentos de apoyo social de FOFIPA

- SDG 12: Responsible Consumption and Production – Ensure sustainable consumption and production patterns

Target 12.2: By 2030, achieve the sustainable management and efficient use of natural resources

Indicator: Percentage of timber volume verified and certified by FSC, and percentage of cocoa volume certified by UTZ in selected areas of the project.

Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

Indicator: Air pollution avoidance shown as the number of trees planted from the project

Indicator: Hazardous and non-hazardous sources are identified and classified as stated by FSC and Gold Standard Guidelines

See:

TMIX19_FF_waste management_manejo residuos
TMIX19_FF_Environmental management waste management in plantations
TMIX19_FF_BARCA_waste management process_2017
TMIX19_FoFi_Biodiversity_Progress_report_2017_2018_Screen. Pages 13, 14, 22.
TMIX19_SustainableTimber_Informe FSC 2018. Pages 8-9.
TMIX19_Informe de raleo en Chiriqui 2018_Final
TMIX19_Informe replante BARCA
TMIX19_RESIEMBRAS SILVICONSULT
TMIX19_AGROQUÍMICOS QUE SE UTILIZAN EN EL MANEJO DE LAS PLANTACIONES FORESTALES-2019
TMIX19_Descripción de las Unidades de manejo forestal de Forest Finance Panamá
TMIX19_FM_CRT_ForestFinance_Fin_021414
TMIX19_Managementplan ForestFinance_28082012[1]
TMIX19_RESUMEN PÚBLICO_2019 ver. final_16.04.2019. Pages 4, 5, 7-13
TMIX19_carta de entrega de desechos
TMIX19_Cap_limpieza y manejo desechos en campamento
TMIX19_Especies Plantadas_CacaoInvest
TMIX19_PROTOCOLO PARA EXPORTACION DE CACAO
TMIX19_Protocolo para la aplicación de productos Quimicos
TMIX19_protocolo fert-corregido al 27 de sep 2015
TMIX19_plan de fertlizacion 2018 Bocas del Toro_2
TMIX19_UTZ_FF\Proyección de cacao 2018\PROYECCION PRODUCCION 2019
TMIX19_FM_RPT_SurveillanceAudit_2018_ForestFinance_110718_CARresponses
TMIX19_FM_PUB_ForestFinancePanama_061219_SPA.pdf

For additional information please refer to the Folders:
TMIX19_FF
TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA CACAO
TMIX19_SDGs
TMIX19_SDGs\TMIX19_SDG12
TMIX19_UTZ_FF

- SDG 13: Climate Action - Take urgent action to combat climate change and its impacts

Target 13.2: Integrate climate change measures into national policies, strategies and planning

Indicator: Emission reductions in tCO_2 equivalents

See:
TMIX_19_Carbon_model_2940_20190814_final.xlsx

- SDG 15: Life on Land - Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

Target 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

Indicator: Extension of forest (or reforested) areas

Indicator: Availability of a long-term management plan

Target 15.3: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.

Indicator: Percentage and/or areas of degraded land and soils restored in comparison with the baseline scenario

Target 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

Indicator: Percentage of conservation areas in the project

Indicator: Number of observations or presence of endemic or threatened species in the project location based on the IUCN Red List

See:
TMIX19_SustainableTimber_Informe FSC 2018. Pages 1, 7,8, 15,22,25,26,29
TMIX19_FoFi_Biodiversity_Progress_report_2017_2018_Screen. Pages 21-25.
TMIX19_Research of the CO2OL Tropical Mix Project
TMIX19_Descripción de las Unidades de manejo forestal de Forest Finance Panamá
TMIX19_Managementplan ForestFinance_28082012[1]
TMIX19_RESUMEN PÚBLICO_2019 ver. final_16.04.2019. Pages 7, 18-30
TMIX19_Resumen de comentarios de los Skateholders 2019
TMIX19_12Tree-Panama-Boca del Monte- DRAFT Social impact assessment 2018_02_21
TMIX19_Colindantes de fincas
TMIX19_Resumen de comentarios de los Skateholders 2019 VERF
TMIX19_Emily Guerra Manejo auto
TMIX19_FF_Forestry_Report_Panama_2017: Page 20.
TMIX19_Conservación De Flora Y Fauna
TMIX19_PM_Q.Pitti_Finca919
TMIX-04-05 ANAM Confirmacion areas protegidas[1]
TMIX19_Diversidad de especie de aves
TMIX19_Ficha Tecnica NO. 1 de alto valor de conservacion en sc2
TMIX19_INFORME DE BIODIVERSIDAD-FOREST FINANCE FINAL
TMIX19_PROTOCOLO MONITOREO PRIMATES_ff
TMIX19_Resultados del Monitoreo Ambiental_Sitio BAVC_Los Monos 2017
TMIX19_FM_RPT_SurveillanceAudit_2018_ForestFinance_110718_CARresponses
TMIX19_FM_PUB_ForestFinancePanama_061219_SPA.pdf

For additional information please refer to the Folders:
TMIX19_FF
TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA CACAO
TMIX19_SDGs\TMIX19_SDG15
TMIX19_SDGs\TMIX19_Adjunto documentos de apoyo social de FOFIPA

A.2 Explanation of methodological choices/approaches for estimating the SDG outcome

>> (Explain how the methodological steps in the selected methodology(ies) or proposed approach for calculating baseline and project outcomes are applied. Clearly state which equations will be used in calculating net benefit.)

Existing Projects that transition to GS4GG may retain their existing sustainable development monitoring plan, including indicators chosen. To do so the Project shall provide a brief and simple explanation that links the parameter already monitored to the closest, most relevant SDG Target. Therefore, and based on the Sustainability Monitoring Plan and supported by the Sustainable Development Assessment, our methodological choice/approach for estimating the SDG outcomes was to establish a linkage with the closest chosen parameters and use supporting documentation as proof of compliance.

- **SDG1: No Poverty - End poverty in all its forms everywhere**

Methodological choice/approach:
Sustainable Monitoring ID: Diversification of work positions
Indicator for: Quantitative employment and income generation
Chosen parameters: Regional and National employment

Sources: Local Stakeholder Consultation and Project Developer reports and records about local/regional investments in schools, capacity building, infrastructure among others.

Methods/Steps used:
- Link parameters already monitored to the closest and most relevant SDG selected.
- Cross-check data and information comparison to find common elements from the Sustainable Monitoring Plan and the Sustainable Development Assessment previously implemented with relevant Stakeholders.
- Direct and indirect economic impact extension of the project and its activities.
- Using the local stakeholder consultation information as a proxy of how the project has improved and increased local conditions, income and revenue among the local members.
- Project records and reports about socio-economic impacts and benefits will be used to support and confirm the information obtained through the local stakeholder consultation.

- **SDG 8: Decent Work and Economic Growth - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**

Methodological choice/approach:
Sustainable Monitoring ID: Diversification of work positions; Capacity Building; Sustainable environment
Indicator for: Quantitative employment and income generation; Human and Institutional Capacity; Quality of employment
Chosen parameters: Regional and National employment; Capacity building

Sources: Local Stakeholder Consultation and Project Developer reports and records about employment contracts, training, human resources statements.

Methods/Steps used:
- Link parameters already monitored to the closest and most relevant SDG selected.
- Cross-check data and information comparison to find common elements from the Sustainable Monitoring Plan and the Sustainable Development Assessment previously implemented with relevant Stakeholders.
- Total number of employees by employment contract and gender, average working hours per week (m/w) including overtime
- Numbers of training/workshops provided are monitored using training records, staff register, contractor statements and employment details, either by the human resources department or by the project developers.
- Cross-check information with invoices and with the local stakeholder consultation report will be also implemented.

- **SDG 12: Responsible Consumption and Production – Ensure sustainable consumption and production patterns**

Methodological choice/approach:
Sustainable Monitoring ID: Green Investment

Indicator for: Access to Investment
Chosen parameters: Product development

Sources: FSC and UTZ reports and/or management certificates. Records, statements and reports of the annual volume of sustainable timber and cocoa systems produced/harvested and planted in the project locations.

Methods/Steps used:
- Link parameters already monitored to the closest and most relevant SDG selected.
- Cross-check data and information comparison to find common elements from the Sustainable Monitoring Plan and the Sustainable Development Assessment previously implemented with relevant Stakeholders.
- Review annual volume of FSC-certified wood produced as well as UTZ certified cocoa.
- Number of trees planted annually to improve air quality and mitigate pollution.
- FSC, UTZ protocols and Gold Standard Requirements outlines hazardous and non-hazardous waste material management.
- Inventories sheets, invoices, and supporting materials of how these materials are handled, placed and applied will be also taken into account.

- **SDG 13: Climate Action – Take urgent action to combat climate change and its impacts**

Methodological choice/approach:
Sustainable Monitoring ID: Climate Project; Organic soil and understory vegetation
Indicator for: Air quality; Soil condition
Chosen parameters: Compensation of project emissions; organic soil monitoring to generate carbon credits

Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology (Version 1.1)

Methods/Steps used:
- Link parameters already monitored to the closest and most relevant SDG selected.
- Cross-check data and information comparison to find common elements from the Sustainable Monitoring Plan and the Sustainable Development Assessment previously implemented with relevant Stakeholders.
- A calculation of project CO_2-e sequestered ex-ante as follows (results in CO_2-e/ha):
    a. Permanent field plots are established using a random systematic grid over the project area.
    b. Field plots are delineated by site quality strata, specie and planting year.
    c. Plot (tree/shrub) measurements converted to dry weight biomass through allometric formulas
    d. Plot data amalgamated by MU.
    e. Above-ground dry weight converted to CO_2-e as follows:
        i. Dry weight to Carbon = multiply by 50%
        ii. Carbon to CO_2-e = multiply by 3.6667 (=:44/12)
    f. Above-ground biomass converted to above- and below-ground CO_2-e = multiply by 1.33 (i.e. use 33% and the below-ground factor for the project area).
    g. Multiply CO_2-e/ha by area (ha) for each MU.
    h. Calculations incorporate reductions due to Baseline and Other Emissions or special reductions due to area variations.
    i. Net result is the current CO_2-e Fixation over the project area.

17.63 tCO_2e/ha/year GSVERs. Emissions are calculated as per registered in the PDD and as per methodology requirement.

$$\text{CO2\_certificates Project area, t} = \sum_{MU=1}^{MUs} \sum_{t=1}^{CP} \text{CO2\_certificates MU, t}$$

- **SDG15: Life on Land - Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss**

Methodological choice/approach:
Sustainable Monitoring ID: Flora and Fauna; Forestry and Water
Indicator for: Biodiversity; Water quality and quantity
Chosen parameters: Endangered endemic species. IUCN Red List; Increase of vegetation to store water.

Sources: Local Stakeholder Consultation; Project Developers Reports and IUCN Red List Database Assessment. Mapping of planting and conservation areas.

Methods/Steps used:
- Link parameters already monitored to the closest and most relevant SDG selected.
- Cross-check data and information comparison to find common elements from the Sustainable Monitoring Plan and the Sustainable Development Assessment previously implemented with relevant Stakeholders.
- Forest or reforested areas, degraded land and soils restored and conservation area extension and percentage based on the sustainable forest management plan of the project compared with the baseline scenario or as per registered in the PDD.
- Future planting activities or similar registered in the management plan as well as potential interventions, expansions or any operation according to official records, reports and statements from the project developers. - Historical data, number of observations, verbal or written surveys with local residents, records and/or occurrence data of endemic or threatened species at local level (IUCN Red List).

A.3 Data and parameters fixed ex-ante for monitoring contribution to each of the three SDGs

(Include a compilation of information on the data and parameters that are not monitored during the crediting period but are determined before the design certification and remain fixed throughout the crediting period like IPCC defaults and other methodology defaults. Copy this table for each piece of data and parameter.)

Relevant SDG Indicator	SDG 1: No Poverty - Economic and impact extent in project location and its activities
Data/parameter	Average annual income of local population engaged in the project activities
Unit	Number of families and average annual household income (USD)
Description	The local population are benefited from new jobs created through the project or benefited from cost savings as a result of access to affordable goods and services
Source of data	World Bank, Global Poverty Working Group. World Development Indicators. Data is compiled from official government sources or are computed by World Bank staff using national (i.e. country-specific) poverty lines[1]. Advances in Poverty Lines, Levels and Income Distribution. Ministry of Economy and Finance[2]. Local Stakeholder Consultation
Value(s) applied	Minimum wage based on the region (1 or 2[3]) in Panama and economic activity according to the Executive Decree No. 75 of December 26, 2017[4] Economic Activity: Agriculture, livestock, hunting, forestry, aquaculture, fishing - Region 1 and 2 • Small enterprise: 265.20 USD monthly (40 hours) • Big enterprise (more than 11 employees): 324.13 USD monthly (40 hours)
Choice of data or Measurement methods and procedures	Local Stakeholder Consultation, Project Developer reports and records about employment contracts Government economic activity focused on forestry and region location
Purpose of data	Determine if the project has contributed to reduce and improve the poverty rate among the local population
Additional comment	-

[1] Source: http://data.worldbank.org/data-catalog/world-development-indicators

[2] Source: http://www.mef.gob.pa/es/informes/Documents/Pobreza%20y%20distribucion%20del%20ingreso%20-%20marzo%202016.pdf

[3] Region 1: Panamá, Colón, San Miguelito, David, Santiago, Chitré, Aguadulce, Penonomé, Bocas del Toro, La Chorrera, Arraiján, Capira, Chame, Antón, Natá, Las Tablas, Bugaba, Boquete, Taboga, San Carlos, Chepo, Guararé, Los Santos, Pedasí, Dolega, San Félix, Barú, Boquerón, Portobelo, Donoso, Santa Isabel, Santa María, Parita, Pesé, Atalaya, Changuinola, Chiriqui Grande. Region 2: the rest of the districts. Available at: https://www.mitradel.gob.pa/salario-minimo/

[4] Source: https://www.mitradel.gob.pa/salario-minimo/

Relevant SDG Indicator	SDG 13: Climate Action - Emission reductions in tCO_2
Data/parameter	Emission reductions in tCO_2-equivalents fixed ex-ante: – Baseline
Unit	tonnes of CO_2-equivalents/hectare
Description	The Baseline is the estimated carbon stock that would occur in the baseline scenario. The baseline scenario describes the activities that would occur in the absence of the proposed project.
Source of data	Scientific literature was used to determinate the existing baseline biomass. To complement the work we executed a survey that allowed us to classify better the MUs with a lower or higher baseline biomass. The survey found out the existence of two different scenarios: (i) grassland pasture and (ii) shrubland. The values for both scenarios were extracted from the Inventario Nacional Forestal y de Carbono de Panamá. Resultados de la Fase Piloto 2013-2015[5]. Page 28, Table 12. Pasto value.
Value(s) applied	– Baseline: 20.17 tCO_2/ha
Choice of data or Measurement methods and procedures	Before the project activity started, the baseline of the project area was a mix of grassland and shrubs. All these areas were evaluated and classified as applicable planting areas for reforestation activities. Other small patches of forest left were classified and since the beginning managed as conservation areas. Other areas (previously planted or due to the project activity) located in the boarder of a river or other watershed are also classified as conservation areas. Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1.
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	As stated in the Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, the baseline is not subjected to monitoring.

Relevant SDG Indicator	SDG 13: Climate Action - Emission reductions in tCO_2
Data/parameter	Emission reductions in tCO_2-equivalents fixed ex-ante: – Belowground tree biomass
Unit	tonnes of CO_2-equivalents/hectare
Description	The belowground tree biomass is not sampled during inventory activities

[5] Source: https://www.unredd.net/index.php?view=download&alias=14902-infc-resultados-fase-piloto&category_slug=inventario-forestal-y-de-carbono&option=com_docman&Itemid=134.

Source of data	Belowground biomass was calculated from the aboveground tree biomass using a root-to-Shoot ratio, using Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1[6]. Source data is based on several scientific studies from the trees species used in the project (Baseline).
Value(s) applied	Please refer to the carbon model for more details.
Choice of data or Measurement methods and procedures	Sample plot above-ground (dry) biomass is determined through the measurement of stem diameter and crown dimensions applied to researched-established allometrics. These calculations are then extended into broad areas (MU's). Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1.
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	-

Relevant SDG Indicator	SDG 13: Climate Action - Emission reductions in tCO_2
Data/parameter	Emission reductions in tCO_2-equivalents fixed ex-ante: – Biomass Expansion Factor (BEF)
Unit	Dimensionless quantity
Description	The values were obtained using different scientific sources (see section sources from the carbon model). The values come from different forestry models and based in trees planted in tropical regions across Latin America with similar characteristics and features as the project.
Source of data	BEF was calculated using Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1[7]. Source data is based on several scientific studies from the trees species used in the project (Baseline) as well as different forestry models across Latin America. See carbon model for more details.
Value(s) applied	– Biomass Expansion Factor (BEF): 1.5
Choice of data or Measurement methods and procedures	Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1.
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	-

Relevant SDG Indicator	SDG 13: Climate Action - Emission reductions in tCO_2
Data/parameter	Emission reductions in tCO_2-equivalents fixed ex-ante: – Soil Carbon
Unit	tonnes of CO_2-equivalents/hectare

[6] Source: https://globalgoals.goldstandard.org/wp-content/uploads/2017/07/401.13-AR-Methodology-V1-1.pdf

[7] Source: https://globalgoals.goldstandard.org/wp-content/uploads/2017/07/401.13-AR-Methodology-V1-1.pdf

Description	Projects complying with all A/R Requirements sufficient to certify their project activities with the Gold Standard may use the A/R Soil Carbon Tool in order to earn soil carbon credits with no additional monitoring required. This tool estimates the change in soil organic carbon stocks due to the planting of forests and applies to soils on planting areas only. Once a project has undergone a successful Initial Certification, VERs generated using this tool may be issued for previous vintages following a successful performance certification.
Source of data	A/R Soil Carbon Tool. Please refer to the carbon model for more information.
Value(s) applied	Soil Carbon: 0.81 tCO_2/ha/year
Choice of data or Measurement methods and procedures	A/R Soil Carbon Tool (Soil Carbon) and carbon model.
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	-

Relevant SDG Indicator	SDG 13: Climate Action - Emission reductions in tCO_2
Data/parameter	Emission reductions in tCO_2-equivalents fixed ex-ante: – Biomass burn
Unit	tonnes of CO_2-equivalents/hectare
Description	No slash and burn technics for soil preparation are part of the Sustainable Management Plan. Exceptions are only done in case of dangerous situations for the workers.
Source of data	10% of the baseline was deducted based on the Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1 and A/R Soil Carbon Tool. See carbon model and 401.13-AR-T-Baseline_TMIX_2940.docx.
Value(s) applied	Biomass burn: 2.01 [tCO_2 eq/ha]
Choice of data or Measurement methods and procedures	Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1. A/R Soil Carbon Tool
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	-

Relevant SDG Indicator	SDG 13: Climate Action - Emission reductions in tCO_2
Data/parameter	Emission reductions in tCO_2-equivalents fixed ex-ante: – Leakage
Unit	tonnes of CO_2-equivalents/hectare

Description	Leakage are emissions that occur due to a shift of activities from the inside of the project area to the outside of a project area. These shifts of activities can cause four different categories by: (a) Collection of wood (for firewood, charcoal, etc.) (b) Timber harvesting (c) Agriculture (crop cultivation, shrimp cultivation, etc.) (d) Livestock Only tree biomass affected by these activities shift shall be considered as mentioned in the Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1. No leakage considered.
Source of data	See references TMIX14-APP1, TMIX14-APP2 and Leakage document template 401.13-AR-T-Leakage_TMIX_2940.docx
Value(s) applied	Leakage: 0 tCO_2/ha
Choice of data or Measurement methods and procedures	Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	Leakage is not subject to monitoring

Relevant SDG Indicator	SDG 13: Climate Action - Emission reductions in tCO_2
Data/parameter	Emission reductions in tCO_2-equivalents fixed ex-ante: – Wood density
Unit	grams / cm^3
Description	The woody density is the ratio between the mass of dry wood divided by its volume. The values were selected and considered as the most appropriate for the different Modelling Units that compose the project from scientific sources.
Source of data	The values were obtained using different scientific sources (see section sources from the carbon model). The values come from different forestry models and based in trees planted in tropical regions across Latin America with similar characteristics and features as the project. See carbon model.

Value(s) applied	

Specie	Wood density (g/cm³)
Anacardium excelsum	0.480
Astronium graveolens	0.860
Acacia mangium	0.530
Bombacopsis quinata	0.470
Cordia alliodora	0.500
Cedrela odorata	0.440
Dipteryx panamensis	0.790
Dalbergia retusa	1.020
Hieronyma alchorneoides	0.723
Inga sp.	0.580
Khaya senegalensi	0.710
Mix of species	0.590
Ormosia sp.	0.610
Sterculia apetala	0.370
Swietenia macrophylla	0.600
Terminalia amazonia	0.780
Tectona grandis	0.688
Tabebuia guayacan	1.020
Tabebuia rosea	0.540
Theobroma Cacao	0.420
Vochysia guatemalensis	0.390
Paulownia imperial	0.260
Paulownia trifolia	0.260
Platymiscium sp.	0.810
Terminalia sp.	0.780

Choice of data or Measurement methods and procedures	See carbon model for reference data. Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	-

SECTION B Safeguarding Principles Assessment

B.1 Analysis of social, economic and environmental impacts

>> (Refer the GS4GG Safeguarding Principles and Requirements document for detailed guidance on carrying out this assessment. The assessment of following Safeguarding Principles Assessment is required to be carried out by GS Version 2.0, 2.1 and 2.2 projects. GS v1.0 projects will carry out assessment of all the safeguarding principles discussed in the GS4GG Safeguarding Principles and Requirements document.)

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes/potentially/no)	Justification	Mitigation measure (if required)
3.1 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. No 2. No	1. During the construction and operation of the project, the project proponent respected and respects all human rights. The project is not in any kind of conflict with the livelihood of local people. Project proponent had conducted stakeholder's consultation and sought their opinion. The project adheres to the host country´s commitment and ratification to The Universal Declaration of Human Rights (UDHR), the International Covenant on Economic, Social and Cultural Rights (accession 08.03.77), International Covenant on Civil and Political Rights (Accession 08.03.77)2. The project will not employ any personnel based on gender, race, religion, sexual orientation or any other basis. As the Constitution of the host country prohibits discrimination on the basis of a person's race, sex, religion, place of birth, disability, political affiliation or social status. The host country has also ratified the eight fundamental Conventions of the	Not required

			International Labour Organization and has set up an ILO declaration[8]	
3.2 Gender Equality and Women's Rights	1. The Project shall complete the following gender assessment questions in order to inform Requirements 2-4, below: • Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits? • Is there a possibility that the Project can adversely affect men and women in marginalized or vulnerable communities (e.g., potential increased burden on women or social isolation of men)? • Is there a possibility that the Project might not take into account gender roles and the abilities of	No No No	• The project does not decrease women´s access to or control of resources. • No, there is no possibility of an adverse effect. • The Project does not consider gender roles and in fact, actively engages both women and men.	Not required

[8] Source: https://www.ilo.org/wcmsp5/groups/public/@ed_norm/@relconf/documents/meetingdocument/wcms_646373.pdf

	women or men to participate in the decisions/designs of the project's activities (such as lack of time, childcare duties, low literacy or educational levels, or societal discrimination)? • Does the Project take into account gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)? • Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from engaging in other activities? • Would the Project potentially reproduce or	Yes No No	• The project does take into account gender roles and the abilities of women or men to benefit from the project´s activities • The Project was not designed to increase women´s workload that adds to their care responsibilities or that prevents them from engaging in other activities • There is no place for discrimination against women in this Project. The project does not potentially reproduce or further deepen discrimination against women based on gender.	

	further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits?	No	• The Project will not limit women's ability regarding natural resources. The project is a sustainable forest project thus does not have any major impact on the natural resources of the region.	
	• Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services?	No	• The Project will not expose women and girls to further risks or hazards.	
	• Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards?		The project proponent has a conflict and grievance mechanism, which would look into comments and complaints.	
	2. The Project shall not directly or indirectly lead to/contribute to adverse impacts on	No	• Participation in the project is 100% voluntary. Any attempt of	

	gender equality and/or the situation of women.		sexual harassment is forbidden and didn't happen until now.	
	• Sexual harassment and/or any forms of violence against women - address the multiple risks of gender-based violence, including sexual exploitation or human trafficking.	No	• The project is not involved in slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls.	
	• Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls.	No	• The Project will not restrict women´s rights or access to resources (natural or economic).	
	• Restriction of women's rights or access to resources (natural or economic).	Yes	• Marital status is completely irrelevant to the Project. The project recognizes women´s ownership rights regardless of marital status. Women´s views of the project are valued and considered	
	• Recognize women's ownership rights regardless of marital status - adopt project measures where possible to support women's access to inherit and own land,	Yes	The Project has equal opportunity for women and men	

	homes, and other assets or natural resources. 3. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work, specifically: • Where appropriate for the implementation of a Project, paid, volunteer work or community contributions will be organized to provide the conditions for equitable participation of men and women in the identified tasks/activities. • Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status. • Ensure that	Yes Yes Yes	• The project takes into account participation by both men and women. Work categories (paid, volunteer work or community contributions) are registered and listed as well as the individuals whom take part of these activities. • There is no limit on the access to Project participation and benefits from either of these conditions. Capacity building is one of many activities provided regardless of gender and promotes full participation of women and men. Other benefits based on pregnancy, maternity/paternity leave or marital status is aligned to the National Law providing regular long-term work and assistance for each situation. • There are no such conditions that limit the access of women or men to project participation and benefits.	

	these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits. 4. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.	Yes	The project is aligned with Panama`s strategy for elimination of all discrimination. Panama has ratified the International Convention on the Elimination of All Forms of Racial Discrimination (16.08.67) and the Convention on the Elimination of All Forms of Discrimination against Women (29.10.81). At national level, the project is also aligned with the Gender Action Plan 2016-2019, National Gender and Health Plan 2015-2019 and the National Strategic Plan with State Vision Panama 2030 (PEN 2030)[9].	
3.3 Community Health, Safety and Working Conditions	The project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	The project is in compliance with all relevant local and national laws. The Project does not threaten human health or the environment and does not adversely affect the health of the workers and the community.	Not required
3.4.1 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 (e.g., knowledge, innovations, or practices)?	No	The project does not change, damage or remove any cultural heritage. Compliance with Panama´s commitment to International Covenant on Economic, Social and Cultural Rights (08.03.77) ensures no damage to critical cultural heritage. As per the list of cultural heritage sites in Panama[10] by UNESCO, it is clear that the project site is not a cultural heritage site.	Not required
3.4.2 Forced Eviction and Displacement	Does the Project require or cause the	No	The project is not involved and is not complicit in involuntary resettlement or relocation of peoples in any way.	Not required

[9] Source: http://www.pa.undp.org/content/panama/es/home/library/poverty/plan-estrategico-nacional-con-vision-de-estado-2030.html

[10] Source: http://whc.unesco.org/en/statesparties/pa

	physical or economic relocation of peoples (temporary or permanent, full or partial)?		The Project Developer has also obtained all necessary land titles and legal documentation approval. The project is located in private land and bought from another private owner. See the Forestry Register ANAM (can be observed upon request).	
3.4.3 Land Tenure and Other Rights	1. Does the Project require any change to land tenure arrangements and/or other rights?	No	1. The project has all the legal, customary rights on the land and does not require any change to land tenure arrangements. Please see: -TMIX19_SustainableTimber_Informe FSC 2018.pdf "La empresa es dueña de todas las UMFs, se pudieron evidenciar los títulos de tierra de las UMFs que están comprometida a largo plazo con los P&C del FSC como indicado en los planes de manejo". -TMIX19_UTZ_FF\o codigo de conducta utz\Copia de ES-UTZ-Code-of-Conduct-Checklist-Individuals-v1 (version 1) nn.xlsx Section I.A.2 - TMIX14-SFM8-Report_COI_FSC.pdf. Section C2.1 - TMIX16-APP1-Analisis historial uso de tierras	Already done through Government Land Agency[11] Supporting documentation
	2. For Projects involving land-use tenure, are there any uncertainties with regards land tenure, access rights, usage rights or land ownership?	No	2. This is not applicable, as the project does not require any changes to land tenure arrangements.	
3.4.4 Indigenous Peoples	Are indigenous peoples present in or within the area of influence of the Project and/or is the	No	The project is not located on land/territory claimed by any indigenous peoples.	Not required

[11] Government Land Agency or ANATI (Autoridad Nacional de Administración de Tierras). Source: http://www.anati.gob.pa/

	Project located on land/territory claimed by indigenous peoples?			
3.5 Corruption	The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.	No	The proponent confirms that there is no corruption involved in the project activity. Panama ranked 93th out of 180 countries and territories surveyed in Transparency International's 2018 Corruption Perceptions Index (Transparency International 2018)[12]. The project abides by the United Nations Convention against Corruption. Panama ratification was made the 23.09.05[13].	Not required
3.6.1 Labour Rights	1. The Project Developer shall ensure that there is no forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with obligations under international law, and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. Where these are contradictory and a breach of one or other cannot be avoided, then	No	1. The proponent assures that there will be no bonded or forced labour. A uniform policy will be and is implemented for all employees. The host country has robust laws in place prohibiting forced and compulsory labour. The project is aligned with ILO. Panama ratified the ILO Fundamental Convention - Forced Labour Convention, 1930 (No.29)[14]-. ILO principles are included in the management policies of the companies. The workers are aware of the principles. All workers have legal contracts, are affiliated to social security, no child work in any kind, safe processes and working hours are established. The Ministry of Work and Labour Development (MITRADEL) [15] is responsible for the compliance of these aspects.	Not required but Supporting documentation is provided

[12] Source: https://www.transparency.org/cpi2018

[13] Source: https://www.unodc.org/unodc/en/corruption/ratification-status.html

[14] Source: Information System of International Labour Standards, Country Profile, Panama. Available at: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:1:0::NO:::

[15] Source: https://www.mitradel.gob.pa/

	guidance shall be sought from Gold Standard.			
	2. Workers shall be able to establish and join labour organizations.	Yes	2. The proponent confirms that all the fundamental rights of the employees will be respected. Panama has no Forestry Labour organization. The project approves a Labour organization; however, the workers don't see it necessary due to good communication. Article 68 of Panama`s Constitution recognizes the right to organize for employers, employees and professionals of all kinds for the purposes of their economic and social activity[16].	
	3. Working agreements with all individual workers shall be documented and implemented. These shall at minimum comprise: (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	Yes	3. Working agreements with all individual workers are documented and implemented. All workers have legal contracts and their respective social security identification. The Ministry of Work and Labour Development (MITRADEL) is responsible for the compliance of these aspects. See documents: – TMIX19_Copia de DetallePlanilla-40638933 feb 19(14100).xlsx – TMIX19_Pago de Caja de Seguro Social.pdf – TMIX19_CONTRATO ANGEL CACERES.pdf – TMIX19_UTZ_FF\23. contratos de trabajadores	

[16] Source: http://www.unesco.org/culture/natlaws/media/pdf/panama/pan_constpol_04_spaorof

	voluntary resignation by employee, AND Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. The Project Developer shall justify that the employment model applied is locally and culturally appropriate.	Yes	4. The Project Developer ensures that local workers/employees are preferred, to the greatest extent, for employment during construction as well as operation phase of the project ensuring skill development in the local population. Local and community villagers are continuously contacted to communicate the project activities benefits and generate engagement and participation. The project performs also social impact evaluation as a strategy for impact optimization among local communities to address challenges such as children education and local woman inclusion in the workforce.	
	5. Child labour, as defined by the ILO Minimum Age Convention is not allowed. The Project Developer shall use adequate and verifiable mechanisms for age verification in recruitment procedures. Exceptions are children for work on their families'	No	5. Child labour is strictly prohibited in the country as stated in the constitution and as ratified in the Convention on the Rights of the Child (12.12.90)[17]. The proponent assures that no child labour will be employed. The project proponent has a set mechanism to ensure the age of all the temporary/ permanent employees during the lifetime of the project.	

[17] Source: https://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=133&Lang=EN

	property as long as: (a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND (b) The tasks they perform do not harm their physical and mental development, AND (c) The opinions and recommendations of an Expert Stakeholder shall be sought and demonstrated as being included in the Project design. 6. 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.	Yes	6. Workers receive annual training to guarantee quality and security during operations. See folder and documents: TMIX19_SDGs\TMIX19_Adjunto documentos de apoyo social de FOFIPA -TMIX19_H. postural.pdf -TMIX19_Induccion de Seguridad.docqqq.pdf -TMIX19_Lijado y Acabado.pdf -TMIX19_Protección Respiratoria.pdf -TMIX19_Seguridad Personal.pdf	
3.6.2 Negative Economic Consequences	1. The Project Developer shall demonstrate the financial sustainability of the Projects implemented, also including those that will occur beyond the Project Certification period. 2. The Projects shall consider economic	Yes Yes	1. Financial sustainability of the project has been discussed in the registered PDD. The calculations are for the entire lifetime of the project. 2. There are no negative economic impacts or potential risks to the local	Companies continue to be solvent and are upscaling the project Not

	impacts and demonstrate a consideration of potential risks to the local economy and how these have been taken into account in Project design, implementation, operation and after the Project. Particular focus shall be given to vulnerable and marginalised social groups in targeted communities and that benefits are socially-inclusive and sustainable		economy due to the project activity.	required – project involves and engages with local communities
4.1.1 Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project does not lead to any greenhouse gas emissions over the Baseline Scenario.	Not required
4.1.2 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?	Yes	The project uses energy from a local grid and rarely fuelwood. The project uses a very limited amount of energy and installed solar panels for activities such as production and post-harvesting cocoa within the UTZ certification framework. Fuelwood and electricity are controlled, reported and monitored. Measures are taken to improve energy efficiency, not only for cocoa activities but also for communal and living areas. The project also contributes to the local infrastructure maintenance e.g. roads to facilitate the access of governmental energy providers and its installations for local communities.	Supporting documentation

			See Folder and documents: – TMIX19_UTZ_FF\28. gastos de electricidad uso de la leña – TMIX19_Resumen de comentarios de los Skateholders 2019.pdf	
4.2.1 Impact on natural water patterns and flow	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 will not affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s). All water resources are conserved, protected and mapped. The project will use ground-water in a natural way (root system of the mixed plantations) but will not affect negative natural or pre-existing pattern of watercourses, ground-water and/or watersheds. Harvesting rainwater is promoted and implemented for different operations such as irrigation. Project locations areas were assessed using the Aqueduct 3.0 Country Rankings[18] datasets to examine the water stress or scarcity as suggested by the standard. At the country level, Panama is ranked in position 136. Here, water stress scores ranked from 1 (highest water stress score) to 165 (lowest water stress score). The analysis also shows the baseline water stress that measures the ratio of total water withdrawals to available renewable surface and groundwater supplies. All of the provinces such as Veraguas, Bocas del Toro, Chiriquí and Darien are categorized as Low (<10%). As stated in the management plans,	Supporting documentation

[18] Aqueduct 3.0 Country Rankings. Available at: https://www.wri.org/resources/data-sets/aqueduct-30-country-rankings. For further details please refer to: https://github.com/rutgerhofste/aqueduct30_country_rankings_data_download/blob/master/metadata.md

			"Under no circumstances, soils that exhibit surface waterlogging will be planted". "As well, no measures will be taken to increase the planting area artificially through for example drainage or other measures where the water level is influenced or soil is moved to level the planting area". Other mitigation/adaptation actions and capacity buildings have been deployed addressing water usage and its efficiency under climate change scenarios. In addition, staff and forest service providers received profound training in case of flooding or any extreme natural events. Several risk assessments considered flooding and water shortages within their analysis and the respective countermeasures. See documents and folders: - TMIX19_Managementplan ForestFinance_28082012[1].pdf - TMIX19_UTZ_FF\anexo actualizado utz 2018\Guía sobre uso del agua.zip\Guía sobre uso del agua\ - TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA CACAO\TMIX19_12. Control de insumos\TMIX19_Uso de agua vivero riego - TMIX19_UTZ_FF\comunicado de responsables de sig\documentos pendientes viernes 07\medidas de mitigacion cambio climatico.docx - TMIX19_UTZ_FF\29. control de capacitaciones y donaciones - TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA	

			CACAO\TMIX19_6.capacitaciones\TMIX19_lista de capacitaciones 2018-actualizado.xlsx - TMIX19_UTZ_FF\Analisis de riesgo de la producción\Análisis de riesgo-UTZ-2018.xlsx	
4.2.2 Erosion and/or Water Body Instability	1. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? If 'Yes' or 'Potentially' proceed to next question	No	1. The project activity directly protects soil and reduces erosion by developing a diverse, multi-layered forest structure using principal site adapted native tree species, maintaining an effective soil cover that reduces erosion and supplies the soil with plenty of organic material. The vegetation management system in the lower canopy of the plantation is another measure that has been adopted to allow spontaneous regeneration and increase coverage with pioneering species that help to recycle nutrients and reduce soil exposure to climatic effects that can cause erosion. Species are planted to help control erosion along natural channels or drains that require it to favour the practice of soil conservation. The most frequent species are the genera Miconia, Cassia, Xylopia, Cordia, Cecropia, Genipa among others, which are dispersed in the canopy as saplings and low latizales (with less than 10 cm in diameter at chest height, 1.30 m). As mentioned in the management plans, "Areas that are susceptible to erosion, like steep slopes with more than 60% inclination, require a special erosion plan that has to be presented to the management staff". Erosion is one of the main elements that are	Supporting documentation

			monitored on an annual basis. Biophysical effects off-site are also monitored such as sedimentation on water resources, presence of erosion, crop affectation (by effects on or on fertility). For instance, a non-tree creeping species was introduced to control erosion; the species is recommended by the authorities for this purpose, and monitoring showed that the species does not have significant environmental impacts. In a similar manner, planting cover species such as forage peanuts (maní forrajero in Spanish) has been used to prevent erosion on steep sites devoid of vegetation. Additional efforts for silvicultural operations such as the extraction and skid-roads that have to be covered with biomass from the felled trees (branches and other parts of the crown) to reduce negative impacts on the soil such as erosion and/or compaction. Environmental Monitoring results on HCVs sites use as an indicator of erosion control and landslides. See documents: - TMIX16-MAP1-Land SAT.docx - TMIX19_SustainableTimber_Informe FSC 2018.pdf - TMIX19_Managementplan ForestFinance_28082012[1].pdf - TMIX19_Resultados del Monitoreo Ambiental_Sitio BAVC_Los Monos 2017.pdf - TMIX19_RESUMEN PÚBLICO_2019 ver. final_16.04.2019.pdf	

	2. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	- TMIX19_Research of the CO2OL Tropical Mix Project.pdf 2. Not applicable. However, the project area is not susceptible to excessive erosion or water body instability.	
4.3.1 Landscape modification and soil	Does the Project involve the use of land and soil for production of crops or other products?	Yes	The project enhances the role of tropical forest plantations as components of multi-functional landscapes that contribute to native biodiversity conservation and restoration at different scales. The project through reforestation with FSC and UTZ certification schemes promotes biodiversity and creates new, near-natural secondary forests in the long term. The ecological benefit is far greater compared to monocultures due to the reforestation in mixed culture is implemented with predominantly native tree species. Only degraded areas such as fallow former cattle pastures, which would not naturally regenerate into a forest system, are afforested. Permanent Sample Plots is the most common form of continuous forest inventory and are located throughout the plantations and re-measured at regular intervals to monitor changes in site productivity over successive rotations of tree crops. Soil requirements for each tree species have been researched and assessed as part of the Soil Guidelines with multiple criteria worth to mention: a. Topography or relief b. Presence of natural boundaries such as rivers c. Type of vegetation or crops present	Supporting documentation

			and their age. d. Type of special handling receiving section (drip irrigation, fertilization, pruning time, etc. e. Soil pint on each sampling unit Other features are also contemplated that contribute to refine soil management measures depending on soil colour, texture, type of soil, presence of erosion or compaction, etc. See documents: – TMIX19_UTZ_FF\12. Analisis de suelo\muestra de suelo y foliar.xlsx – TMIX19_UTZ_FF\9.capacitaciones\Charla BPA conservacion de suelo junio 18.docx – TMIX19_FoFi_Biodiversity_Progress_report_2017_2018_Screen.pdf – TMIX19_Managementplan ForestFinance_28082012[1].pdf	
4.3.2 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?	No	The Project will not be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions. FSC and UTZ certificates, as well as all management plans, have a component about how to address and respond to natural disasters or the most common ones in the local area. Mitigation actions, monitoring plans and capacity building compose the whole Action Plan of each company. See: - TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA CACAO\TMIX19_1. tarjeta de emergencia	Supporting documentation

			- TMIX19_INFORME EVENTO ESPECIAL BOCA DEL MONTE.pdf - TMIX19_UTZ_FF\Analisis de riesgo de la producción\Análisis de riesgo-UTZ-2018.xlsx - TMIX19_SDGs\TMIX19_Adjunto documentos de apoyo social de FOFIPA\TMIX19_prevencion y control incendios Meteti 2019.docx	
4.3.3 Genetic Resources	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development)?	No	The project does not have any impact on the use of genetically modified organisms or GMOs	Not required
4.3.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No	The project does not lead to the release of any pollutants to the environment. See: - TMIX19_UTZ_FF\16. ANALISIS DE AGUA - TMIX19_UTZ_FF\12. Analisis de suelo - TMIX19_UTZ_FF\28. gastos de electricidad uso de la leña - TMIX14-SFM8-Report_COI_FSC.pdf (Section C.8.3) - TMIX19_Resultados del Monitoreo Ambiental_Sitio BAVC_Los Monos 2017.pdf - TMIX14-SFM8-Report_COI_FSC.pdf (Section C.6.1) - TMIX19_Capacitación impactos ambientales SW (2).pdf	Supporting documentation

4.3.5 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 does not involve the generation of hazardous and non-hazardous chemicals and/or materials. Standard procedure is followed at the site during operation and maintenance, as well as FSC, UTZ guidelines and regulations. See: – TMIX19_AGROQUÍMICOS QUE SE UTILIZAN EN EL MANEJO DE LAS PLANTACIONES FORESTALES- – TMIX19_Protocolo para la aplicación de productos Quimicos – TMIX19_SustainableTimber_Informe FSC 2018 – TMIX19_FM_RPT_SurveillanceAudit_2018_ForestFinance_110718_CARresponses – TMIX19_FM_PUB_ForestFinance Panama_061219_SPA.pdf – TMIX19_PM_Q.Pitti_Finca7428.docx – TMIX19_PM_R.Uyama.docx – TMIX19_FF_waste management_manejo residuos.pdf – TMIX19_FF_BARCA_waste management process_2017.docx – TMIX19_FF_Environmental management waste management in plantations.docx	Supporting documentation
4.3.6 Pesticides and fertilizers	Will the Project involve the application of pesticides and/or fertilisers?	Potential	Pesticides are minimized, justified and used only selectively in areas with specific problems. The project follows the national legislation[19] on pesticides and FSC Pesticides Policy. Also, a specific fertilization plan is set up for the agroforestry (cocoa) areas. In the forest areas, fertilizers are used during planting and during the first 5	Supporting documentation

[19] Source: http://www.vertic.org/media/National%20Legislation/Panama/PA_Ley_47_1996.pdf

			years. Mix-species planting are expected to maintain soil fertility, increase soil carbon and nitrogen pools, producing more ecological and economic benefits[20]. Pesticides and fertilizers were cross-checked according to the Management Plans and supporting documentation such as FSC and UZ certification schemes against the World Health Organization Recommended Classification of Pesticides by Hazard and Guidelines to Classification: 2009[21]. See: – TMIX19_AGROQUÍMICOS QUE SE UTILIZAN EN EL MANEJO DE LAS PLANTACIONES FORESTALES- – TMIX19_plan de fertlizacion 2018 Bocas del Toro_2 – TMIX19_protocolo fert-corregido al 27 de sep 2015 – TMIX19_Protocolo para la aplicación de productos Quimicos – TMIX19_SustainableTimber_Informe FSC 2018 – TMIX19_FM_RPT_SurveillanceAudit_2018_ForestFinance_110718_CARresponses – TMIX19_FM_PUB_ForestFinance Panama_061219_SPA.pdf – TMIX19_Protocolo Biofertilizante-15.docx	
4.3.7 Harvesting of forests	Will the Project involve the harvesting of forests?	Yes	The forests will be managed and harvested in a sustainable way following MAI based on frequent monitoring.	Supporting documentation

[20] Sources: Vigulu, V. W., et al. "Competition for nitrogen between trees in a mixed-species plantation in the Solomon Islands." Australian Forestry 80.3 (2017): 135-142. Liu, Corsa Lok Ching, Oleksandra Kuchma, and Konstantin V. Krutovsky. "Mixed-species versus monocultures in plantation forestry: Development, benefits, ecosystem services and perspectives for the future." Global ecology and conservation 15 (2018): e00419.

[21] Source: The World Health Organization. The WHO recommended classification of pesticides by hazard and guidelines to classification: 2009. Available at: https://www.who.int/ipcs/publications/pesticides_hazard_2009.pdf

			See: – TMIX19_Informe de raleo en Chiriqui 2018_Final – TMIX19_Informe replante BARCA – TMIX19_RESIEMBRAS SILVICONSULT – TMIX19_SustainableTimber_Informe FSC 2018 – TMIX19_FM_RPT_SurveillanceAudit_2018_ForestFinance_110718_CARresponses – TMIX19_FM_PUB_ForestFinance Panama_061219_SPA.pdf	
4.3.8 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 does not have any impact on the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives.	Not required
4.3.9 Animal Husbandry	Will the Project involve animal husbandry?	No	The project does not involve animal husbandry. Not Applicable.	Not required
4.3.10 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 are	No	The Project does not affect or alter largely intact or HCV ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified. Already existing forests remain. All protection areas are clearly identified and mapped. The project within its boundaries has an approximate area of 761.58 hectares of natural vegetation at the national level, distributed among the plantations with some gallery forest redoubts, small patches of secondary forest, in all of them have been conducting biodiversity studies to determine whether they have attributes of High Conservation Value (HCV). At Los Monos, San Juan, Santa Cruz 2 and Boca del Monte, all located	Not required but supporting documentations is provided

			in the province of Chiriquí, finca Mamoní 1 in the province of Panama and the project Buenos Aires in the province of Darién have attributes that merit HCV status. The Los Monos project was classified in two categories of HCV: category 1 and 2, therefore the focus has been on establishing cooperation between the community and collaborators to join efforts to monitor these attributes and thus quantify whether the measures identified and adopted are sufficient to conserve this type of forest. Flora species such as Bogomaní (Virola spp), María (Calophyllum longifolium), Cedro amargo (Cedrela odorata), Amarillo (Terminalia amazonia), Roble (Tabebuia rosea) have been identified, with some degree of threat or critical danger that deserves to be conserved. Among the fauna observed are the iguana (Iguana iguana), white-faced monkey (Cebus capucinus), woodpecker (Melanerpes ribricapillus), boa (Boa constrictor), toucan (Ramphatos sulfuratus), torcazas (Columba fasciata) and more than 50 bird species classified as migratory, endemic and coastline. See documents: - TMIX19_RESUMEN PÚBLICO_2019 ver. final_16.04.2019.pdf - TMIX19_Resultados del Monitoreo Ambiental_Sitio BAVC_Los Monos 2019(1).pdf - TMIX19_Proyecto BAVC S.C 2.pdf	
4.3.11 Endangered Species	1. Are there any endangered species identified as potentially being present within the	No	1. There are no endangered species identified as potentially being present within the Project boundary. Areas for conservation purposes are managed under a forest enrichment approach	Not required

	Project boundary (including those that may route through the area)? 2. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?		and mapped. The HCV approach is taken into account to restore and protect degraded areas of ecological, religious or historical relevance. 2. The Project does not impact other areas where endangered species may be present through transboundary affects.	

SECTION C Monitoring plan

C.1 Data and parameters to be monitored

(Include specific information on how the data and parameters that need to be monitored in the selected methodology(ies) or proposed approaches or as per mitigation measures from safeguarding principles assessment or as per feedback from stakeholder consultations would actually be collected during monitoring. Copy this table for each piece of data and parameter.)

The following Monitoring items are as presented in Project Developer's 2014 Certification Audit (i.e. Sustainability Monitoring Plan template). These SDG Indicator/Safeguarding principles from the aforementioned documents were linked to the closest and most fitting SDG as recommended by the Performance Transition Reviewer.

Relevant SDG Indicator/Safeguarding principle	SDG 8: Decent Work and Economic Growth Associated and closest Sustainable Monitoring ID, indicator: - Diversification of work positions, Quantitative employment and income generation - Sustainable environment, Quality of employment and Human and institutional capacity - Capacity building, Human and institutional capacity
Data/ Parameter	Benefits which are standard for full-time, temporary or part-time employees of the project organization Associated chosen parameters: - Regional and national employment - Capacity building
Unit	- Number of employees directly engaged in the project activities - Employment numbers (regional) and salary/wages paid - Number of persons on the payroll - Number of training/capacity building per year
Description	- Project´s management approach to hiring, recruitment, retention and related practices - Carry out training to improve knowledge on different technical topics related to sustainable management - Maintain and improve local workforce
Source of data	- Employee numbers and payroll - Project Developer reports and human resources record about health care, parental leave, disability and invalidity coverage and retirement provision. - Project Developer`s records. TMIX14-SFM8 and TMIX14-LSC9 - TMIX19_SDGs\TMIX19_Adjunto documentos de apoyo social de FOFIPA - TMIX14-LSC10. Project Developer´s employment number records and payroll. - See supporting documentation in Section A.1
Value(s) applied	- Full-time, temporary and part-time employees - Capacity building on an annual basis – internally or in collaborative arrangements based on tasks and responsibilities in the workplace
Measurement methods and procedures	- Cross-check information and comparison between baseline and current status of the project developer reports and human resources tracking records - Annual employment records, annual contractor records, GS certification

Monitoring frequency	Annual basis. Crediting period
QA/QC procedures	Employment contracts Salary payment procedures Compile company records
Purpose of data	- Determine which benefits, impacts and working conditions are present in the project and how the project manages them - Determine the number of persons involved in the project and personal development/skills to contribute to local community(ies) - Observe and track salary levels and job diversification over time
Additional comment	---

Relevant SDG Indicator/ Safeguarding Principle	SDG 12: Responsible Consumption and Production Associated and closest Sustainable Monitoring ID, indicator: - Green Investment, Access to investment
Data/parameter	Revenue and new markets with certification schemes Associated chosen parameters: - Product development
Unit	- Project Developer annual revenue (USD) and the number of national and/or international trading partners - Number of alternatives investment products and number of customers supporting the Project Developer.
Description	- Type and number of sustainability certification schemes that act as a catalyst bringing economic benefits by opening new markets and customer base diversification - Individuals, small, medium and large enterprises direct forest investments through different channels to maintain, improve and develop project activities
Source of data	Project Developer annual revenue (USD) statement, FSC and UTZ certificates and record sheets Project Developer´s records and customer records TMIX19_RESUMEN PÚBLICO_2019 ver. final_16.04.2019 TMIX19_FoFi_Biodiversity_Progress_report_2017_2018_Screen TMIX19_FM_CRT_ForestFinance_Fin_021414 TMIX19_SustainableTimber_Informe FSC 2018 TMIX19_FM_RPT_SurveillanceAudit_2018_ForestFinance_110718_CARresponses TMIX19_FM_PUB_ForestFinancePanama_061219_SPA.pdf ANORAP Membership from Forest Finance and Sustainable Timber: http://anarap.com/junta-directiva-miembros/ See supporting documentation section A.1
Value(s) applied	- Wood granted for forest harvesting and wood mobilized by province area and external trade of wood products in Panama between 2012-2016[22] - Baseline estimations with and without investors over time

[22] Sources: https://www.contraloria.gob.pa/inec/archivos/P86115.pdf and https://www.contraloria.gob.pa/inec/archivos/P861111.pdf

Measurement methods and procedures	FSC and UTZ reports and/or management certificates. Records, statements and reports of the annual revenue of sustainable timber and cocoa systems produced/harvested and planted in the project locations as well as country(ies) destination of these products
Monitoring frequency	Annual basis. Crediting period
QA/QC procedures	FSC and UTZ standard certifications principles and criteria (Guidelines)
Purpose of data	- Determine the sustainable development of the production and management - Increase access to financial services and markets in developing countries
Additional comment	- Financial services integration into value chains and markets

Relevant SDG Indicator/Safeguarding principle	SDG 13: Climate Action Associated and closest Sustainable Monitoring ID, indicator: - Climate Project, Air quality
Data/ Parameter	Associated chosen parameters: - Compensation of project emissions- Emission reductions in tCO_2 eq - Aboveground tree biomass
Unit	Tonnes of CO_2-equivalents/hectare, [tCO_2eq/ha]
Description	Aboveground tree biomass is calculated using the stem volume, the Biomass Expansion Factor (BEF), carbon fraction and C to CO_2 factor. Data was collected from different scientific studies for each tree species existing inside the project eligible area. The Mean Annual Increment (MAI) and Total Steam Volume (m^3) for each species was used to estimate the amount of tCO_2eq according to the project activities.
Source of data	Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1[23]. Source data is based on several scientific studies from the trees species used in the project (Baseline). MRV specific data is provided from each MU and it is compared to the original scientific data basis. See carbon model for more information.
Value(s) applied	Please refer to the carbon model for more details.
Measurement methods and procedures	Sample plot above-ground (dry) biomass is determined through the measurement of stem diameter and crown dimensions applied to researched-established allometrics. These calculations are then extended into broad areas (MU's). Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1.
Monitoring frequency	Annual basis. Crediting period
QA/QC procedures	Monitoring, Verification and Reporting (MRV) system from all Management Units (MUs) older than 3 years, Mirasilv software, GIS database from the project, Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1
Purpose of data	Determine the overall carbon sequestration of the project as a whole

[23] Source: https://globalgoals.goldstandard.org/wp-content/uploads/2017/07/401.13-AR-Methodology-V1-1.pdf

Additional comment	---

Relevant SDG Indicator/Safeguarding principle	SDG 13: Climate Action - Associated and closest Sustainable Monitoring ID, indicator: - Climate Project, Air quality
Data/ Parameter	Associated chosen parameters: - Compensation of project emissions- Emission reductions in tCO_2 eq - Other emissions
Unit	Tonnes of CO_2-equivalents/hectare, [tCO_2/ha]
Description	Emissions that result from the use of fertilizers during project activities. Fertilizer 0.005 tCO_2 per kg of nitrogen (N) fertilizer shall be deducted. No differentiation is made between synthetic and organic fertilizer. An average is used per hectare for any fertilization taking place in the first 5 years. A conservative approach was used. This value was apply to all the MUs.
Source of data	Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1[24]. Source data is based on several scientific studies from the trees species used in the project (Baseline). See Carbon model and 401.13-AR-T-Other-Emissions_TMIX_2940.docx template for more information.
Value(s) applied	Other emissions: 3.1 [tCO_2/ha]
Measurement methods and procedures	These calculations are then extended into broad areas (MU's). Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1. A/R Soil Carbon Calculation Tool
Monitoring frequency	Annual basis. Crediting period
QA/QC procedures	FSC and UTZ standard certifications principles and criteria. For other MUs, annual amount of fertilizer used submitted in annual reports or records.
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	---

Relevant SDG Indicator/Safeguarding principle	SDG 13: Climate Action - Emission reductions in tCO_2 Associated and closest Sustainable Monitoring ID, indicator: - Climate Project, Air quality
Data/ Parameter	Associated chosen parameters: - Compensation of project emissions- Emission reductions in tCO_2 eq - Productive area
Unit	Hectares, (ha)
Description	Productive area is considered as the eligible area where tree planting (or related actions) activities takes place and that meets the applicability conditions of the applied Gold Standard Methodology.

[24] Ibid

Source of data	- Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1. - Company mapping of properties. See TMIX19-SHP1.rar
Value(s) applied	8,450.14 ha
Measurement methods and procedures	- Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction & Sequestration Methodology, Version 1. - Gold Standard Land-use & Forests Activity Requirements[25] as applicable to A/R Projects in addition to the requirements stipulated in the Principles and Requirements[26]
Monitoring frequency	Annual basis. Crediting period
QA/QC procedures	Remote sensing (mapping location accuracy, GIS files), establishment of land tenure arrangements (legal contracts), cadastral mapping and land consolidation procedures.
Purpose of data	Determine the overall carbon sequestration of the project as a whole
Additional comment	---

Relevant SDG Indicator/ Safeguarding Principle	SDG 15: Life on Land Associated and closest Sustainable Monitoring ID, indicator: - Flora and Fauna, Biodiversity - Water quality and quantity
Data/parameter	Restoring connectivity in a fragmented landscape Associated chosen parameters: - Endemic or threatened species at a local level. IUCN Red List - Increase of vegetation to store water
Unit	- Project area (ha) and number of species - Forestry and Water-Conservation areas (ha)
Description	- Targeted reforestation to generate interconnectivity between different forest fragments and other natural areas, to promote/enhance conservation and biodiversity. - Forests act like sponges preventing from flooding during rainy periods and providing water through percolation in dry seasons

[25] Source: https://docs.google.com/viewerng/viewer?url=https://globalgoals.goldstandard.org/wp-content/uploads/2019/10/200-GS4GG-LUF-Activity-Requirements-v1.2.pdf&hl=en

[26] Source: https://globalgoals.goldstandard.org/100-gs4gg-principles-requirements/

Source of data	Mapping TMIX14-DNH7, Local Stakeholder Consultation and IUCN Red List[27] TMIX19_INFORME DE BIODIVERSIDAD-FOREST FINANCE FINAL TMIX19_FoFi_Biodiversity_Progress_report_2017_2018_Screen. Pages 21-25. TMIX19_sendero didactico-1_sb TMIX19_ANEXON02. Inventario de Regeneracion_Sitio BAVC Los Monos TMIX19_FF_biodiversity_progress_report_2015_2016. Pages 15-19 TMIX19_Resumen de comentarios de los Skateholders 2019 TMIX19_Resumen de comentarios de los Skateholders 2019 VERF TMIX19_12Tree-Panama-Boca del Monte- DRAFT Social impact assessment 2018_02_21 TMIX19_Colindantes de fincas Baseline scenario (pasture areas) and TMIX14-SFM4 See folders: – TMIX19_FF\TMIX19_BOCAS DEL TORO - AUDITORIA CACAO \TMIX19_11. Analisis\TMIX19_16. ANALISIS DE AGUATMIX19_16. ANALISIS DE AGUA – TMIX19_RESUMEN PÚBLICO_2019 ver. final_16.04.2019 – TMIX19_SustainableTimber_Informe FSC 2018 – TMIX19_FM_RPT_SurveillanceAudit_2018_ForestFinance_110718_CARresponses – TMIX19_FM_PUB_ForestFinancePanama_061219_SPA.pdf
Value(s) applied	- Conservation areas. Degraded areas exhibit a limited number of flora and fauna species present in comparison with conservation or reforested areas - Transformation of grassland to forest
Measurement methods and procedures	- GIS database and remote sensing assessment. - GS certification. - Historical data, number of observations, verbal or written surveys with local residents, records and/or occurrence data. - Local Stakeholder Consultation and Project Developers reports.
Monitoring frequency	Crediting period
QA/QC procedures	- Sustainable Management Plan implemented by the Project Developer. - FSC standard and guidelines - UTZ standard and guidelines
Purpose of data	- Determine the level of connectivity and estimate how habitat corridors can provide long-term conservation benefits across different species and populations. - Determine the presence/absence of endemic or threatened species in the forest, reforested and conservation areas - Determine the positive effect of forests on water quality, quantity and regularity

[27] Source: https://www.iucnredlist.org/

Additional comment	- The project protects areas with secondary forest, giving shelter to native flora and fauna " Sendero los Monos" - Conservation areas store water from rain and reduce evapotranspiration. The water is a valuable source for all the habitat and species that interact in the forest.

C.1.1 Other elements of monitoring plan (if applicable)

>> Not applicable.

SECTION D Duration and crediting period

D.1 Duration of project

D.1.1 Start date of project

>> *(Specify start date of the project, in the format of DD/MM/YYYY)*

01/09/1995

D.1.2 Expected operational lifetime of project

>> (*Specify in years)*

The project is set up as a sustainable forestry project based on a rotation forestry concept. There is no specific defined lifetime and project end for the project (100 years, in perpetuity).

D.2 GS Crediting period of the project/activity

D.2.1 Start date of the ongoing GS crediting period

>> *(Specify in dd/mm/yyyy)*

01.09.1995

D.2.2 End date of the ongoing GS crediting period

>> *(Specify in dd/mm/yyyy)*

31.12.2024

D.2.3 Total length of the GS crediting periods

>> *(Specify the total length of crediting period in years in line with GS4GG Principles & Requirements or relevant activity requirements)*

30 years

SECTION E Stacking of new assets

>> *(If project is looking to stack new assets over GSVERs the required information to demonstrate compliance to the relevant methodology, product specification and additionality shall be presented in the new PDD template launched with GS4GG)*

Not planned and scheduled up to now.

Appendix 1. Contact information of project participants

Organization name	Forest Finance Panama S.A.
Registration number with relevant authority	RUC 43446-165-29-1694
Street/P.O. Box	Calle Gustavo Lara
Building	Casa 146 A
City	Panama City
State/Region	Panama
Postcode	N/A
Country	Panama Republic
Telephone	+507-317-1251
Fax	+507-317-1984
E-mail	petra.kollmannsberger@forestfinance.de
Website	www.forestfinance.de
Contact person	Yaels Camacho
Title	CFO
Salutation	Mrs
Last name	Camacho
Middle name	N/A
First name	Yaels
Department	Forestry Department
Mobile	507-66152995
Direct fax	507-7270027
Direct tel.	507-7270010
Personal e-mail	yaels.camacho@forestfinance.com

Organization name	Sustainable Timbers S.A.
Registration number with relevant authority	RUC 751014-1-480129
Street/P.O. Box	Ave. Justo Arosemena y calle 32
Building	Edif. Dr JJ Vallarino
City	Panama City
State/Region	Panama
Postcode	0816-00574
Country	Panama Republic
Telephone	(507) 225-7535
Fax	(507) 225-4025
E-mail	N/A
Website	N/A
Contact person	Miguel Vallarino
Title	CEO
Salutation	Mr
Last name	Vallarino
Middle name	N/A

First name	Miguel
Department	N/A
Mobile	0050760703340
Direct fax	N/A
Direct tel.	N/A
Personal e-mail	miguel_vallarino@hotmail.com

Organization name	Eco Cebaco S.A.
Registration number with relevant authority	RUC 1262577-1-595949
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