EVERGREEN REDD+ PROJECT

EVERGREEN

REDD+ Project

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CONTENTS

1 PROJECT DETAILS

1.1 Summary Description of the Project

The Evergreen REDD+ Project is a 130,632.6 hectare forest area located in Apuí Municipality, Amazonas, which is currently the municipality with the 10th highest deforestation rate in Brazil [1]. The municipal deforestation rates reached the highest levels ever recorded by PRODES data in 2019, at 287.7 km^2 deforested, which is 41% higher than the previous annual record, making it a priority area for forest conservation worldwide.

Provided that the present REDD+ project is approved, the landowner intends to improve the mechanisms of surveillance inside the Project Area, abandon planned deforestation activities, as well as implement activities that will result in climate, community, and biodiversity benefits. One of the project properties will have operational sustainable forest management activities, which also permits monitoring of the areas by staff.

Regarding Avoided Deforestation, the estimated net GHG emission reductions, over the 30 years of the project lifetime, are of 34,652,524 tCO_2e (annual average of 1,155,084 tCO_2e), corresponding to:

- a total Avoided Unplanned Deforestation (AUD) area of 58,881.40 ha, spread over the thirty year project lifetime, corresponding to the estimated net GHG emission reductions of 24,652,524 tCO_2e; and
- A total avoided Planned Deforestation (APD) area of 25,000.00 hectares over the first 5 years of the project lifetime, corresponding to the estimated net GHG emission reductions of 10,000,000 tCO_2e.

Regarding Avoided Unplanned Deforestation, sustainable forest management is a tool to guarantee the surveillance in the Project Area, as a Sustainable Forest Management Plan (SFMPs) that is pending approval, is present in one of the 3 properties. The presence of workers in timber management areas is the primary factor to reduce the pressures of trespassing illegal wood harvesters inside the Project Area.

- Secondly, the project activity will increase surveillance to avoid further trespassing into the Project Area: 3 surveillance posts will be placed around the farm and new motorcycles will be purchased, with a view to ensuring security at the project site and surrounding areas;

- Thirdly, the project proponents will discontinue their plans to deforest 20% of the Project Area;

- Finally, complementary monitoring of labor conditions in the Project Area will be conducted.

[1] Source PRODES: http://terrabrasilis.dpi.inpe.br/app/dashboard/deforestation/biomes/legal_amazon/rates

1.2 Sectoral Scope and Project Type

Sectoral Scope: 14 - Agriculture, Forestry, Land Use

Project Category: Avoided Unplanned Deforestation (AUD project activity)

This is a grouped project.

1.3 Project Eligibility

According to the AFOLU Requirements regarding Reduced Emissions from Deforestation and Degradation (REDD) projects[2], eligible activities are those which reduce net GHG emissions by reducing deforestation, which is the case for this project activity Deforestation is the direct, human-induced conversion of forest land to non-forest land. The entirety of the Project Area currently meets the internationally accepted definition of forest[3], and was forest for a minimum of 10 years before the project start date. The definition of forest may include mature forests, secondary forests, and degraded forests. Under the VCS, secondary forests are defined as forests that have been cleared and have recovered naturally, are at least 10 years old and meet the lower limit of the forest threshold parameters at the start of the project. The main effect of this project activity to reduce carbon emissions by preventing the conversion of forest lands with high carbon stocks to non-forest lands with lower carbon stocks. In addition, avoiding conversion of forests to cropland or pasture can reduce emissions of CH_4 that are associated with biomass burning used to clear the land. This project activity stops unsanctioned deforestation on forested lands and is thus eligible as a REDD activity. It reduces GHG emissions by stopping deforestation of mature forests, that would have occurred because of:

i) socio-economic forces that promote alternative uses of forest land and the inability of institutions to control these activities;

ii) poor law enforcement and lack of property rights;

iii) subsistence farming and illegal logging.

The configuration of deforestation applicable to this project, as defined by the methodology, is frontier, which is described as the result of the expansion of roads and other infrastructure into forest lands. Roads and other infrastructure can improve forest access and lead to increased encroachment by human populations, such as subsistence farming on previously inaccessible forest lands.

This project activity is also eligible in the sense that it respects all Brazilian forest legislation and is in accordance with local and national environmental interests, as described in "1.17 Additional Information Relevant to the Project", subsection "Sustainable Development".

Commercially Sensitive Information

[2] Source Verra: https://verra.org/wp-content/uploads/2020/11/PREVIOUS-VERSION-AFOLU-Requirements-v3.6.pdf
[3] Source FAO: http://www.fao.org/3/Y4171E/Y4171E10.htm

No commercially sensitive information has been excluded from this public version of the Project Description.

Further Information

Not applicable.

1.4 Project Design

This project was designed as an Avoided Unplanned Deforestation applying VM0007 methodology, Version 1.6, dated 08 September 2020.

Eligibility Criteria

This is a grouped project. This AFOLU project activity is designed to include REDD Avoided Unplanned Deforestation (AUD) components. In addition, this project activity is designed to include more than one "project activity instance", such as different communities or landowners along the project lifetime. Thus, this grouped project is designed to allow the expansion of the project activity after project validation.

This grouped project has one clearly defined geographic area within which project activity instances shall be developed. This geographic area is defined using geodetic polygons. The determination of the baseline scenario and demonstration of additionality were based upon the initial project activity instances (03 properties), that are included in this VCS-PD at validation. For inclusion of new geographic areas, it will be demonstrated that such areas are subject to the same baseline scenario and rationale for the demonstration of additionality, as the geographic area that does include initial project activity instances.

Regarding the AUD component, a single baseline scenario is determined for the entire designated geographic area, in accordance with VM0007 methodology. The additionality of the initial project activity instances was demonstrated for each designated geographic area, in accordance with the methodology applied to the project. All factors relevant to the determination of the baseline scenario or demonstration of additionality (i.e., common practice; laws, statutes, regulatory frameworks, or policies relevant to demonstration of regulatory surplus; historical deforestation rates) were assessed across the grouped project geographic area and respective reference region.

The project proponent has not defined a capacity limit for this project activity in terms of its geographic area. However, it has been established that any such limit will respect the same conditions of similarity of historical deforestation rates as applied in the initial project instances.

For this grouped project, the following set of eligibility criteria for the inclusion of new project activity instances has been defined, which is applicable for VM0007 REDD APD and AUD activities and geographic area comprised within the Reference Region:

1) Meet the applicability conditions set out in the methodology applied to the project.

2) Use the technologies or measures specified in the project description.

3) Apply the technologies or measures in the same manner as specified in the project description.

4) Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.

5) Have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area. For example, the new project activity instances have financial, technical and/or other parameters (such as the size/scale of the instances) consistent with the initial instances, or face the same investment, technological and/or other barriers as the initial instances.

In addition, new project activity instances shall:

1) Occur within the Reference Region (RRL)

2) Comply with all the set of eligibility criteria for the inclusion of new project activity instances (cited above).

3) Be included in the monitoring report with sufficient technical, financial, geographic, and other relevant information to demonstrate compliance with the applicable set of eligibility criteria and enable sampling by the validation/verification body.

4) Be validated at the time of verification against the applicable set of eligibility criteria.

5) Have evidence of project ownership, in respect of each project activity instance, held by the project proponent from the respective start date of each project activity instance (i.e., the date upon which the project activity instance began reducing or removing GHG emissions).

6) Have a start date that is the same as or later than the grouped project start date.

7) In the case APD, activities must have the relevant deforestation permits, approved by the relevant State authority.

8) Be eligible for crediting from the start date of the instance through to the end of the project crediting period (only).

Where a new project activity instance starts in a previous verification period, no credit may be claimed for GHG emission reductions or removals generated during a previous verification period and new instances are eligible for crediting from the start of the next verification period. Where inclusion of a new project activity instance necessitates the addition of a new project proponent to the project, such instances shall be included in the grouped project within five years of the

project activity instance start date. The procedure for adding new project proponents will respect the rules of the VCS Program document Registration and Issuance Process.

AFOLU non-permanence risk analyses will be assessed for each new geographic area. Activity-shifting, market leakage and ecological leakage assessments will be reassessed where new instances of the project activity are included in the project.

1) The geographic area within which all project activity instances shall occur is delineated with the Reference Region set in this VCS-PD.

2) The determination of the baseline for the project activity is in accordance with the requirements of the methodology applied to the project.

3) The demonstrations of additionality for the project activity are in accordance with the requirements of the methodology applied to the project.

4) A set of eligibility criteria for the inclusion of new project activity instances at subsequent verification events is defined in this VCS-PD (above in this topic).

5) A description of the central GHG information system and controls associated with the project and its monitoring is provided in the Monitoring Plan.

1.5 Project Proponent

Organization name	Ituxi Administração e Participação Ltda.
Contact person	Ricardo Stoppe Junior
Title	Project Proponent (Landowner)
Address	Av. Calama N. 5040 Sala 01, Porto Velho, Rondônia
Telephone	55 (92) 3634-7521
Email	aamericardo@ig.com.br

Organization name	Carbonext Consultoria Ltda.
Role in the project	Technical advisory on project development
Contact person	Janaína Dallan, Luiz Fernando de Moura & David Swallow
Title	Project developer

Address	Rua Tabapuã, 1123 – cj 104-108 Itaim Bibi São Paulo/SP Brazil www.carbonext.com.br
Telephone	+55 (11) 2339-6931
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1.6 Other Entities Involved in the Project

Organization name	Avix Engenharia e Estudos Técnicos
Role in the project	Satellite imagery analysis for baseline assessment
Contact person	Mateus Trez
Title	Technology, Remote Sensing and Geoprocessing Coordinator
Address	www.avix.com.br
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Email	mateus@avix.com.br

1.7 Ownership

Organization name	Ituxi Administração e Participação Ltda
Contact person	Ricardo Stoppe Junior
Title	Main Project Proponent (Landowner)
Address	Av Calama 5040, sala 01 76820-594 Flodoaldo Pontes Pinto Porto Velho – RO, Brazil

Telephone	+55 (92) 3634-7521
Email	aamericardo@ig.com.br

1.8 Project Start Date

25th November 2020 is defined as the project start date as it was the date that the project owner submitted a request to the official organ IPAAM, to obtain permission to deforest a legal proportion of the Aroeira property in the Project Area (PA). The reason being that maintaining the PA forested was no longer judged to be financially viable without carbon credits by the project owner, as of that date.

1.9 Project Crediting Period

Start date: 25th November 2020

End date: 24th November 2050

30 years.

1.10 Project Scale and Estimated GHG Emission Reductions or Removals

Project Scale	
Project	
Large project	x

Regarding the AUD component, a preliminary estimate covering the entire project crediting period was created, a preliminary estimate assuming a flat annual deforestation rate of 2.11% was made, which was calculated in the RRD between 2010 and 2019.

Regarding the APD component a summary follows below, a deforestation cycle covering the first 5 years of the project lifetime, covering 5,000 hectares per year, corresponding to a total avoided planned deforestation of 25,000 hectares.

Year	Estimated GHG emission reductions or removals (tCO_2e)
2021	3,099,965
2022	3,076,809

2023	3,054,142
2024	3,031,951
2025	3,010,228
2026	988,962
2027	968,144
2028	947,764
2029	927,812
2030	908,281
2031	889,161
2032	870,444
2033	852,120
2034	834,183
2035	816,622
2036	799,432
2037	782,603
2038	766,129
2039	750,001
2040	734,213
2041	718,758
2042	703,627
2043	688,815
2044	674,315
2045	660,120
2046	646,224
2047	632,621
2048	619,304
2049	606,267
2050	593,505

Total estimated ERs	34,652,524
Total number of crediting years	30
Average annual ERs	1,155,084

1.11 Description of the Project Activity

The EVERGREEN REDD+ PROJECT consists of a 130,632.6 hectare total Project Area of protected Amazon rainforest, located in the municipality with the tenth highest deforestation rate in the Amazon Biome in 2021[4]: Apuí, Amazonas. Being one of the southernmost municipalities in the Brazilian state of Amazonas, it is geographically located near the "Arc of Deforestation" and borders with the highly deforested municipality of Colniza, Mato Grosso, to the South.

Regarding the AUD component, the present REDD project is predicted to avoid 58,881.40 hectares of deforestation, equating to 24,652,524 tCO2e in emissions reductions over the 30-year project lifetime (25th November 2020 to 24th November 2050), including buffer (RF), leakage (DLF) and project efficiency (EI) reductions.

As for the APD component, the project proponents are discontinuing plans to deforest a total of 25,000.00 hectares over five years, equating to 10,000,000 tCO2e of avoided carbon emissions.

Over the historical reference period of the present project (2010 – 2019) in the State of Amazonas, we see a consistent year-on-year increase in deforestation – except for 2017 (10% decrease) –, according to PRODES data: 405 km² in 2009 grew to 1,000 km² in 2018, representing an overall increase of 147%. The years 2019 and 2020 taken together saw 2,955 km² of deforestation: rates not seen since 1995-1996. An IPAM/ISA/IMAZON (2014) study presents several factors that have traditionally been linked to the felling of forests:

i) the increase in prices for agricultural products, for example, have historically spurred deforestation for both productive and speculative purposes;

ii) major infrastructure works, such as hydroelectric projects, paving of highways (which in the present case is represented by the BR-364 federal highway) and construction of ports, change the regional dynamics and may have contributed in part to the recent increase in felling of forests;

iii) and the government's continued weakening of environmental regulations: The Forest Code approved in 2012 allowed the legalization of a significant proportion of areas illegally deforested in the past, which created expectations that new deforestation would be amnestied in the future. Indeed, since the time of this study, this tendency has been confirmed by the

[4] Source PRODES (accessed 22/03/21): http://terrabrasilis.dpi.inpe.br/

progressive weakening of the enforcement of environmental legislation, which has been linked to the almost unprecedented levels of deforestation of recent years[5,6].

The Project Area displays 29% of overlap with public conservation areas ("UCs"), which are part of the Southern Amazon Mosaic:

- Approximately 24,000 hectares of the PA overlap with the Jatuarana National Forest (or "FLONA"); and
- Approximately 27,900 hectares overlap with the Aripuanã wild harvesting Reserve (or "RESEX") and the Sucunduri National Forest (or "FLONA").

These protected areas are classified within the sustainable use category, where sustainable activities are permitted. Forestry activities can be carried out in these areas in the form of Sustainable Forest Management, provided that it is authorized by the Brazilian Environmental Agency (IBAMA). The Protected Area Center of Amazonas State (CEUC) was responsible for the management of all the State Protected Areas. In 2015, CEUC was temporary terminated by the Amazonas State Government.

Despite the fact that protected areas are crucially important tools in the fight against deforestation, these important reserves often do not attain their sustainable development goals given shortfalls in management and monitoring, leaving them vulnerable to criminal activity such as land squatting, illegal wood harvesting and deforestation, particularly in areas close to the arc of deforestation, which is the case in the present project. The continued deforestation in Conservation Units can be seen in the table below, by the considerable proportion that this category represented of the total Amazon deforestation in 2013. Furthermore, it is important to note that successive governments (Dilma in 2012, Temer in 2016, and Bolsonaro 2019[7]) have put forward measures to reduce the areas Conservation Units ("UCs")[8], therefore further putting these overlapping areas in peril.

Table 1. Deforestation in 2013 by land title category in the Brazilian Amazon[9]

Land title category	Area deforested in 2013 (km²)	% of the total deforested
Indigenous Land	148.04	3%

[5] Source Folha de São Paulo (accessed 22/03/21): https://www1.folha.uol.com.br/ambiente/2020/09/amazonia-tem-2o-pior-agosto-de-desmate-so-perdendo-para-o-do-1o-ano-sob-bolsonaro.shtml

[6] Source A Pública (accessed 22/03/21): https://apublica.org/2020/08/governo-bolsonaro-reduz-multas-em-municipios-onde-desmatamento-cresce/

[7] Source Amazônia.org (accessed 22/03/21): https://amazonia.org.br/2019/07/bolsonaro-conversa-com-governadores-sobre-revisar-unidades-de-conservacao/

[8] Source Terra de Direitos (accessed 22/03/21): https://terradedireitos.org.br/acervo/artigos/ameacas-concretas-do-governo-bolsonaro-sobre-unidades-de-conservacao/23231

[9] Source: Source: IPAM/ISA/IMAZON (2014)

Conservation Unit	312.18	6%
Environmental Protection Area (APA)	234.01	5%
Settlement	1,399.86	29%
Private Property	994.02	20%
Non-designated public land	665.20	14%
Land lacking land title information	1,121.45	23%
Total	4,874.76	100%

In accordance with the Southern Amazon Mosaic Management Plan, CEUC established that sustainable forest management plans are permitted on private lands, provided that the property meets the Decree's single paragraph about the creation of Protected Areas, as follows: Private lands whose properties are properly registered under Brazilian law are permitted within Aripuanã Sustainable Development Reserve, Guariba Extractive Reserve, and Aripuanã State Forest

In this way, if a property has a land title issued by the National Institute for Colonization and Agrarian Reform (INCRA), this land may develop a Sustainable Forest Management Plan (SFMP), subject to IBAMA's approval. Therefore, there are no restrictions for SFMP within the Protected Areas where the Evergreen REDD project's properties are located.

Thus we can conclude the importance of the Evergreen REDD+ Project's activities eve in the portions that overlap with Conservation Units, in the sense that its mission and actions sum with those of the Protected Areas in its surroundings, through its implementation of forest conservation and promotion of rational use of forest resources.

The main deforestation agents considered within the Evergreen REDD project are, for the Avoided Unplanned Deforestation (AUD) component: cattle ranching, mainly producing beef; timber harvesters, acting both legally and illegally; and infrastructure, such as highways and construction of roads. In the case of the Avoided Planned Deforestation (APD) component of the present project, economic pressures were going to compel the project proponent to deforest, to gain income from cattle farming, making them themselves the deforestation agent, which plans have been discontinued.

In the south the municipality of Apuí, approximately 70 km from the project area, planned major road construction is planned, which generally increases access to and trade of products. Furthermore, it will probably affect demographic growth in the region, resulting in higher population pressure and deforestation rates. It is likely that these infrastructure projects will also lead to a considerable increase in migration to the region and colonization through land grabbing (IDESAM 2011b).

Furthermore, according to IDESAM, the municipality of Apuí (which contains the Project Area in its entirety) is an agricultural expansion front in the Amazon and occupies the 9th position of the most deforested municipalities annually between 2013 and 2019 (IDESAM 2019). Despite the barrier to the expansion of deforestation formed by the Southern Amazon Mosaic, some of these protected areas fall within the sustainable use category, and moreover, they are close to the Brazilian arc of deforestation, which increases deforestation pressure and illegal logging.

The Evergreen REDD project committed to conserving the property, despite a consistently negative financial balance. For this reason, and because of competition pressures described in section 3.5, Additionality, the revenue from the present REDD project is essential for the continued conservation of this native rainforest area. Conservation activities involve the prevention of invasion by outside agents to prevent illegal logging and other illicit degradation of the project area. Supervision is carried out by three supervisors from within the project region, who keeps the project owner updated constantly. The supervision team monitors the area on alternate schedules, flying over the area every 10 months. The area is benefitted by three guard towers (one per property). Lastly, the project owner provides motorcycles when needed.

The entirety of the project area has retained its original vegetation cover. There are no buildings, or permanent settlements and there are 69.8 hectares which were deforested for roads, which were duly removed from the project area. Deforestation or extraction of forest products have never been carried out within the project area because the main objective of the project owner is forest conservation combined with sustainable forest management, along with other activities related to the collection of non-timber forest products (NTFPs).

A sustainable forest management plan (SFMP) maybe implemented during the project period, to harvest forest products/by-products in a manner consistent with the conservation of the local ecosystem. This type of economic activity enables the harvesting of an economically feasible volume of forest products, however allowing the regeneration of the natural stock in accordance with the growth and recovery rates of the biome. The SFMP is further detailed at the end of this section.

Sustainable forest management plan within the Evergreen REDD project area

The predicted total area for the SFMP zone is 20% (2793.50 ha) of one of the properties, Aroeira, which has a total of 13,968.8 ha. The harvesting of selected trees for timber, according to the approved parameters mentioned below, and these activities are implemented by the project owner as one component of the sustainable economic activities, which provide the income needed to keep forests standing.

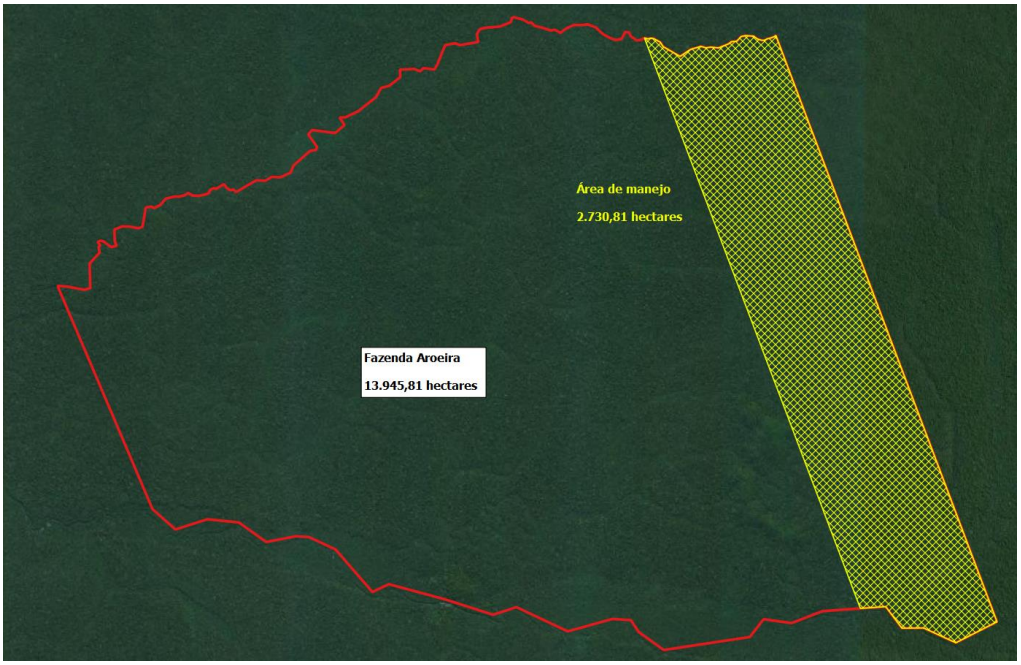

Figure 1. Total planned forest management area within the Aroeira property

The project owner has probable plans to pursue sustainable forest management plan (SFMP) in just one of the three properties – Aroeira, as mentioned above. However, the current estimate for implementation is six years away, in 2027, thus there is currently no specific data on this. In general terms, though, the use of forests under SFMPs depends on prior authorization of the SFMP by the responsible environmental body, which in the State of Amazonas is the Instituto de Proteção Ambiental do Amazonas - IPAAM. The procedures and guidelines for forest management of the area are described below, aiming to achieve economic, social, and environmental benefits. Forest management systems located in the State of Amazonas (within the Amazon biome) using machines to drag and transport logs are based on a minimal cutting cycle of 25 years. The maximum cutting level is 25 m3/ha (4 – 6 trees/ha) in reduced impact plans, provided that the trees have minimum diameter of 50cm for felling for all species for which specific felling diameters have not yet been specified. Tree selection is conducted according to technical and ecological criteria to promote regeneration of managed tree species, soil preservation and quality of remaining forest. Thus, at least 10% of the remaining trees per species in the effective exploration area per plot are guaranteed, respecting the minimum limit of preservation of at least 3 trees per species per 100 ha, in each subdivision of the plot. The legal requirement estimates that the annual productivity of the managed forest area is 0.86 m3/ha/year, such that at the end of 35 years, the 30 m3 previously extracted has been recovered, which completes one cycle.

Regarding private properties, sustainable forest management plans cannot be implemented in permanent preservation areas (PPAs). However, legal reserve areas established by the Brazilian

Forest Code can be harvested for production of goods and services, subject to the approval of the SFMP by the relevant environmental body.

A complete forest inventory will be the next necessary step to assess the area's forestry potential and determine the actual area for sustainable forest management to design the SFMP, scheduled for 2026. It is predicted that this area will be divided into 10 large Annual Production Units (APUs), which constitute the forest areas to be managed for the next 10 years (operation cut cycles). In this way, APU1 will be harvested in year 0 of the timber harvesting plan (2027), and so on, which ensures the regeneration and preservation of the ecosystem. It is important to note that an Annual Harvesting Operational Plan shall be carried out before harvesting each APU, which also depends on prior authorization by IPAAM.

Furthermore, Forest Stewardship Council (FSC) Certified Forest Management will be applied to the future SFMP, in accordance with the VCS VM0007 methodology requirements. FSC equates to low-impact harvest systems associated with forest longevity, continued ecological balance, socio-environmental responsibility, and financial efficiency.

According to the Brazilian Forest Code, permanent preservation areas (PPAs) at the borders of waterways will be comprehensively preserved. An additional 2% is to be designated as protected area under FSC-certified sustainable forest management criteria and Amazonas State legal requirements. Assuming that the rotation cycle is 10 years, and the total area is 2,730.81 ha, an example of the size of the annual productive units (UPA), would be 273.08 hectares.

Generally, within the project area, some planned deforestation is predicted to include infrastructure, such as opening of main and secondary roads, skidding trails, and timber yards in each annual production unit (or "UPA" - Unidade de Produção Anual, in Portuguese) within the project area, estimated to be around 1% of each UPA.

Despite the importance of SFMPs for climate change adaptation and mitigation, their implementation is not considered common practice, primarily due to the shortage of human resources and funding required to implement the necessary measures (FAO 2012).

Implementation of the proposed REDD+ mechanism together with the SFMP promotes sustainable forest use by implementing forest conservation and preserving the valuable carbon stocks in forests, while reducing pressure for illegal timber from other areas. In this way, biodiversity conservation, carbon emissions reductions, and development of the local economy can be achieved in a complementary fashion. Furthermore, REDD+ mechanisms in sustainably

managed forests can provide a guarantee of purchasing an environmentally responsible product to buyers of wood products, thus catering to the growing market demand (FAO 2012).

Discontinued Planned deforestation activities

Regarding the APD component of the project, the total area planned for deforestation was of 25,000 ha, which has been discontinued in accordance with the applied APD methodology modules of the present project.

1.12 Project Location

The Evergreen REDD+ Project (hereafter "the project") is situated in Apuí municipality in the State of Amazonas – the Southern Amazon. The municipality is located around 1,000 km from Manaus, the capital of the State of Amazonas. The project area belongs to Ituxi Administração e Participação Ltda., and is covered 100% by native vegetation, totaling 130,632.60 ha. The northern project boundary lies approximately 20 km from the city of Apuí, the western boundary is close to, or at points touching, the Aripuanã River, and the eastern boundary is flanked by the unofficial local road, the Estrada da Coruja, and is within some 20 km of the Acari river. The full contour coordinates of the project area are available upon request.

The primary means of access to the project is via road, the main one is leaving southwards from the city of Apuí, Amazonas State, on the Estrada da Coruja, in the State of Mato Grosso (MT). This journey must be done by 4x4 and is only feasible during the dry season (from May to September). The second option is by road and then by boat, taking the boat the Trans-Amazonian Highway (BR-230) from Apuí towards Vila do Carmo, AM until reaching the Aripuanã River, and then southwards by boat for 100km, at which point the river meets the project's Southwest corner. However, this river has several waterfalls, making it difficult to reach the area during the dry season.

In accordance with VCS requirements, stipulated in Approved VCS Methodology VM0007, version 1.6, the project area may only include areas composed of "forest" for a minimum of ten years prior to the project start date. Therefore, satellite images between 2010 and 2019, were analyzed and classified. The areas within the property that were defined as forest in 2019 and in 2010 were analyzed to define the project area.

Areas of deforestation were excluded from the project area, specifically: 43 ha deforested by roads.

The project areas include some which overlap with public conservation areas: Jatuarana National Forest ("FLONA"): approximately 24,000 ha; The Aripuanã Wild-Harvesting Reserve ("RESEX") and Sucunduri State Forest approximately 27,900 ha; which sum to 51,900 ha.

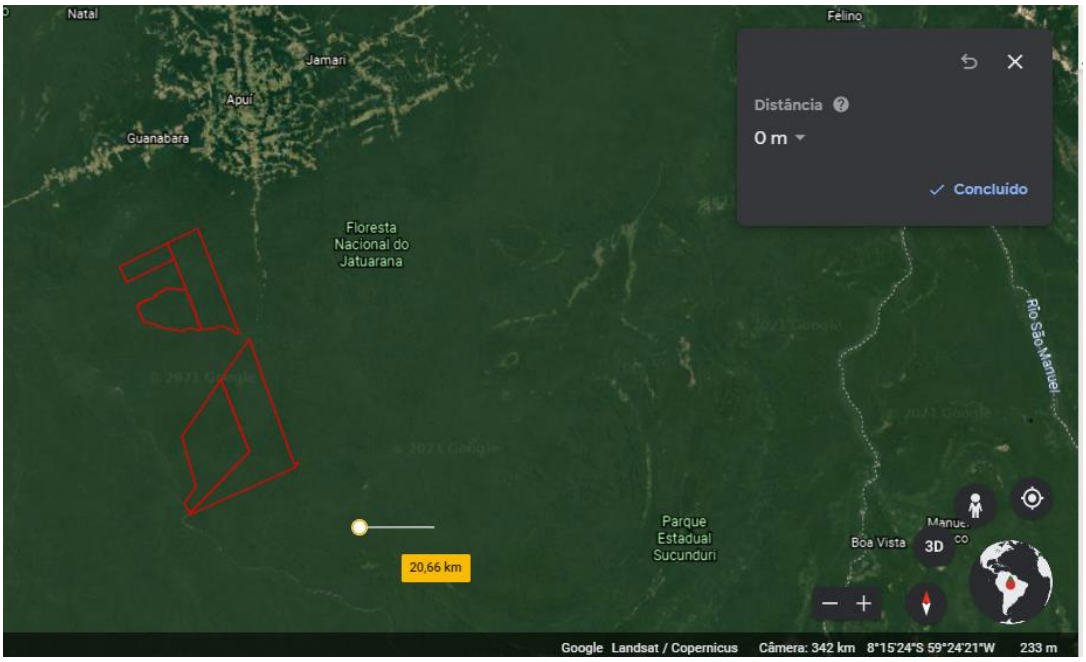

Figure 2. The Evergreen REDD+ Project Area

The Project Area is subdivided into three properties, as detailed in the table below:

Table 2. Breakdown of properties in the Project Area

Nome	Propriedades	Hectares
Faz Alvorada		96,924.35
Faz Buiuçu	23,515.19	32,225.5
	10,193.14	13,968.8
Total		130,632.60

1.13 Conditions Prior to Project Initiation

General characteristics of the project area and reference region

Referring to research by the nearby Boa Fé VCS Project, The Evergreen REDD+ Project makes an important contribution to the conservation of Southern Amazonia's biodiversity as well as to climate regulation in Brazil and South America. In addition to contributing to the long-term conservation of the region, this project also functions to establish a barrier against the advancement of the Brazilian Arc of Deforestation, creating a Southern Amazon biodiversity corridor by conjoining with other protected areas in the region, two of which have been developed by the same project proponent – project owner team.

Preserving such continuous forest environments is one way of ensuring continued gene flow of regional species and limiting the entrance of invasive species from other habitats.

The general characteristics of the project area and reference region are described below.

Climate and Hydrography

The project region is classified as Tropical rainforest climate type – Am category – according to the Köppen climate classification (KÖPPEN, W.; GEIGER, R, 1928). This means that it has no winter season, and the average annual rainfall is high, averaging > 2,100 mm/year, while in the rest of the reference region it is 2,125.38 mm, thus, it was verified that the amount of rain in the project area it is within the range of ± 10% of 100% of the average of the rest of the reference region, which varies between 1,912.84 and 2,337.92 mm. This category is also characterized by having a monsoon season associated with heavy rains during the summer, with months that may exceed 400 mm rainfall. The relative humidity in the region is usually above 80%.

The annual rainfall in the project area is, on average, 2,153.14 mm, while in the rest of the reference region it is 2,125.38 mm, thus it was verified that the amount of rain in the project area is within the range of ± 10% to 100% of the average of the rest of the reference region, which varies between 1,912.84 and 2,337.92 mm. The Am climate type is defined as follows:

1) The driest months have average rainfall 18°C.
2) The project area displays little monthly and annual variation in temperature, ranging between 23°C and 25°C as a monthly average, the minimum temperature is always >18°C.

The project area is in the climate contact between two Brazilian regions: the north hot-humid and the central seasonal. This region is dominated by dense forests in a hot and humid region, with a shorter or absent dry period. Therefore, the climate in the region, called Monsoon, is the transition between a hot and humid climate with a hot seasonal climate and often humid (WWF Brasil, 2014).

In addition, the project area is located within the Tapajos-Madeira watershed, specifically to the right of the Madeira River sub-basin. The Figure below shows the waterways and watersheds in the reference region. It can be noted that most rivers in the region are oriented in the south-north direction.

Most of the rivers are navigable only for about six months a year (wet season), due to the lower water level during the dry season and the large number of rapids and rocks.

The project area's entire western boundary is the Aripuanã River, a major tributary of the Madeira River. The Aripuanã is a large river, which is over 400m wide at its widest point, having many rocky rapids and a major waterfall named the Sumaúma Waterfall.

The other important river in the vicinity (20 km) of the property is the Acari. Due to the rock formations originating in the Southern Amazon Plateau, the rivers begin to form floodplain lands only in its final portion, near to the Aripuanã River.

Geology, Topography and Soils

The altitude variation in the reference region is relatively low, and the higher parts do not exceed 500 m above sea level, with values between 22 m and 500 m, these values are within 99% of

the variation in the reference region. Noting that the eastern portion of the region has the highest values.

The great Amazon Plain takes place at most of the project area, noting that at the southern part, on the border with the State of Mato Grosso, there are several small mild hills, which were formed by rocks emerging from the Central Brazil Plateau Crystalline Complex, also known as Southern Amazon Plateau.

There is a mildly hilly relief to the landscape, with streams well distributed across the terrain. Most of the area, especially in the lower course of the rivers, lays over sedimentary substrate where part is periodically flooded during the rainy season, forming floodplain forested lands. Figure 6 below shows the slope map of the project area and reference region. It is possible to note that almost all the project area has a little or no slope and gentle slope, having a slope below 8%.

69% of the project area falls into the <15% slope class, while 31% falls into the >15% slope class. Therefore, the average value of the project area is within the range of ± 10% of the average in this region, which is between 4.89 and 5.97.

The predominant rock formation within the project area originates from granites and gneisses of the Central Brazil Plateau Crystalline Complex. The main rock types are acidic and / or sedimentary, such as some sandstones and claystones. Furthermore, the main geological formation in the region is denominated Prainha Formation, which is a sedimentary clastic succession.

Erosive processes acting for thousands of years on the Southern Amazon Plateau have eroded the main river channels flowing from south to north direction, such as the Aripuanã and Roosevelt Rivers. This process has also produced rapids and waterfalls, such as the Sumaúma Waterfall, on the edge of the Plateau. In addition, all the regional rivers run to the Madeira River in the north, being that the largest plains are located at the end of the Guariba River.

The predominant soil types within the project area , as summarized in the table below, are yellow latosols and red-yellow latosols, from the oxisols group within the aluminum-iron complex, together with medium-high acidity clays. These soils are poor in phosphorus and potassium, with low to medium levels of calcium and magnesium. In addition, these soils have medium to high clay content, with sections with low to moderate sand and silt contents. Furthermore, there is a high concentration of organic matter on the surface soil layers resulting from the thick organic layer under the forest litter. Clay and sandy-clayey soils, notably red-yellow podzolic, are also found in the landscape's slopes, which predominate in less than 10% of the total project area, concentrated in its southern portion. In addition, dystrophic lithosols with quartz gravel are found at the end of steep slopes and close to streams and hills to the south of the property. Gley hydromorphic soils from grey to dark colors are also found in some floodplains and flooded riverbanks at the end of their course, such as the Guariba, Paxiuba, Paxiubinha, Samaúma and Suçuarana Rivers19. Furthermore, according to RADAMBRASIL (1978)20, there are some small

areas of anthropogenic soils, known as "indigenous black soil" (Portuguese: terra preta de índio), generally distributed across the riverbanks. These soils are characterized by having high concentration of nitrogen and phosphorus.

Table 3. Breakdown of soil types in the Project Area

PA		
Soil types	Area (ha)	Area (%)
Yellow Latosols	32,658	25%
Red-yellow Latosols	6	0.004%
Red-Yellow Argisol	97,974	75%
Total	130,632.60	100%

Socio-economic conditions

The following socioeconomic analysis considers the municipalities which comprise the reference region: Novo Aripuanã (48% of the RRD) and Apuí (52% of the RRD), in the State of Amazonas.

An analysis of the Gross Domestic Product (GDP) in these municipalities[10] indicates that most of the wealth produced comes from agriculture/livestock and services sectors. The services are generally provided and depending on the agricultural sector. Figure 04 below shows the GDP by sector in the two main municipalities of the reference region.

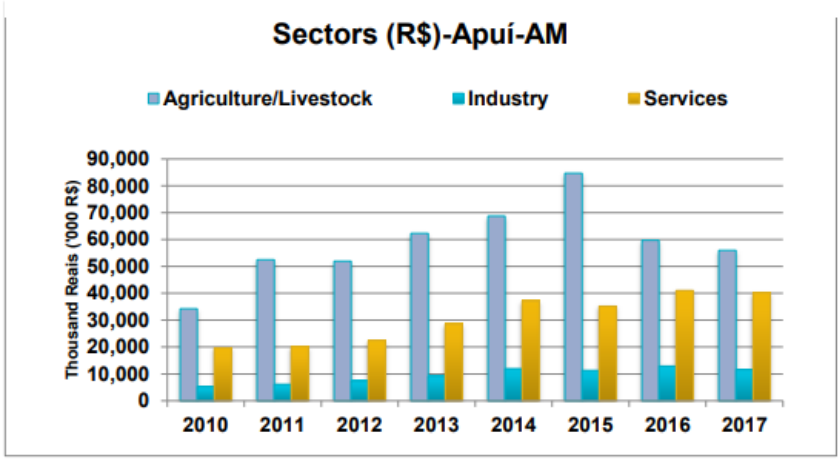

Figure 3. Gross domestic product by sector in the municipality of Apuí

[10] Source, The Brazilian Institute for Geography and Statistics (IBGE): https://www.ibge.gov.br/

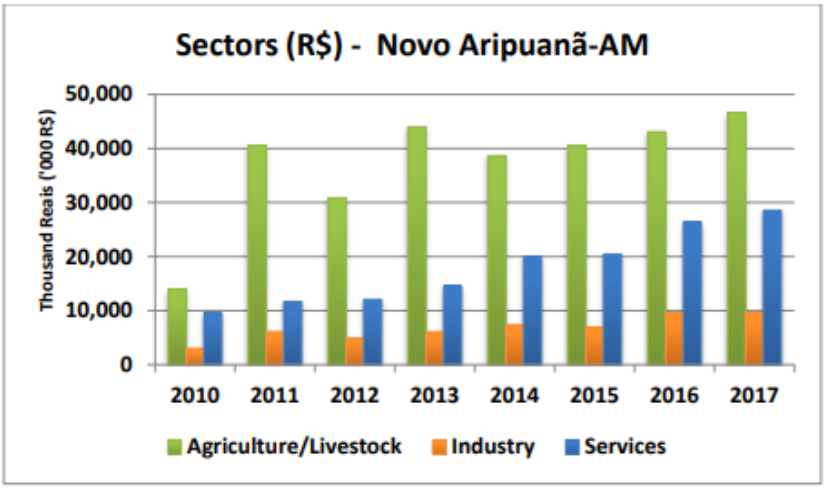

Figure 4. Gross Domestic Product by sector the municipality of Novo Aripuanã

In addition, analysis of the figure below shows that the main land use in the two municipalities that compose the reference region is livestock followed by temporary crop, according to the 2017 Agricultural Census (IBGE, 2017).

According to IDESAM (2011), the land ownership situation in Apuí is chaotic, presenting only 17.6% of titled land, a very low value if compared to other settlements in the Amazon. Thus, the failure to resolve the land tenure situation contributes to reducing options for legal productive activities, such as forestry, and continues to encourage the expansion of deforestation associated with livestock and land speculation in this region, where most of the deforested area of the municipality is concentrated, being primarily within the arc of deforestation, where the only available means of access to the rest of the country are located, according to Razera (2005).

Due to having a border with Mato Grosso State and being linked to Rondônia State via the Trans-Amazonian Highway, and as a function of the appreciation of land in these States, Apuí Municipality has seen great demand for land, as pointed out by Razera (2005), because it offers large areas with low prices, or land still considered to be “ownerless”.

Traditional means of production, such as wild-harvesting and subsistence agriculture, are combined with livestock farming and agriculture activities resulting in growth of the regional economy and population, but also in conflicts involving society at large and lands occupied by indigenous and traditional communities (IDESAM 2011).

In addition, the predominant animal types in the three main municipalities of the reference region in 2017 were cattle (69%), fowls (26%), and swine (3%), composing almost 98% of the total. The Figure below shows the distribution of animal types within the reference region in 2017.

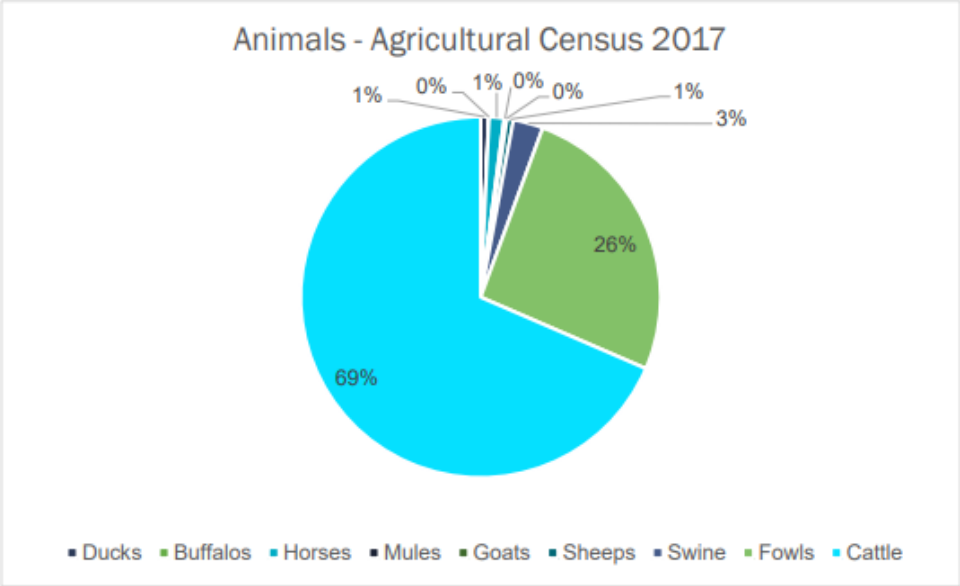

Figure 5. Animal types in the two municipalities of the reference region in 2017

In 2017, there were around 136,8 thousand heads (Figure 06 below) of cattle within the municipality of Apuí, occupying an area of around 123 thousand hectares of pasturelands. These figures show an average stocking rate of 0.6 heads/ha, which demonstrate the low efficiency cattle ranching model in the region, mainly due to the low cost of the land.

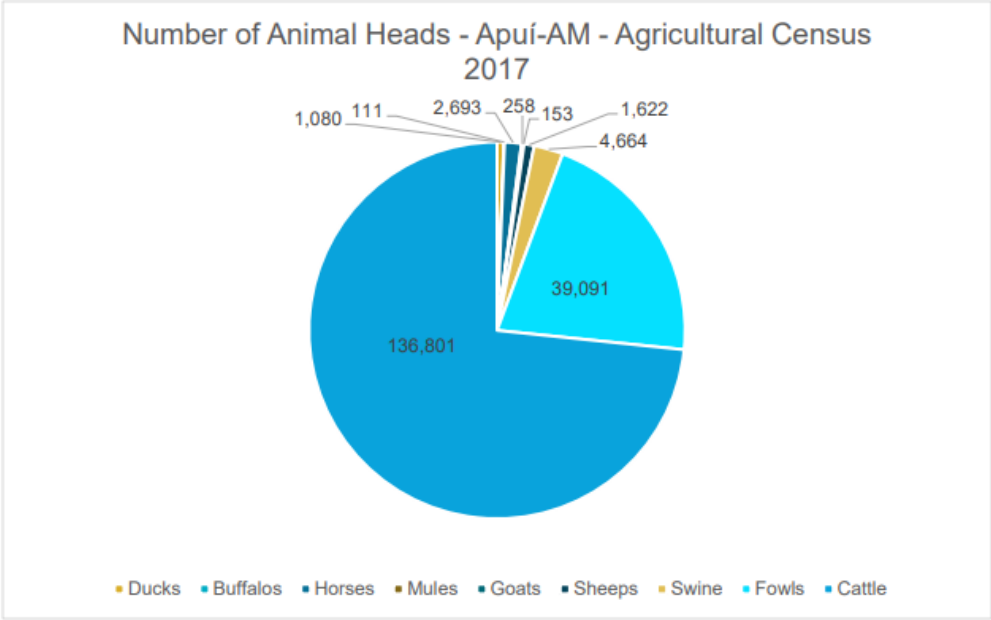

Figure 6. Number of Animal Heads - Apuí-AM - Agricultural Census 2017

Brazilian ranchers on average raise just over one head of cattle per hectare of land, but professionally managed pastures, with better grass production, can support three to five heads per hectare.

Nevertheless, this situation is slowly getting better; over the past decade, pasture in the Amazon region has increased by 30% and the number of cattle has increased by 80% (Tollefson 2010).

In addition, timber logging is an important economic activity within the reference region. Usually, timber logging is the first driver of deforestation that reaches previously inaccessible forest lands, followed by land speculators or farmers in search of cheap land. It is a co-evolutionary process, that is, firstly the timber logging harvests all the species with commercial interest, then after clearing roads and settling in these areas, the deforestation continues in areas already explored and unexplored, and thus providing conditions for further expansion of logging and cattle (Razera 2005). The illegal logging (without authorization or sustainable management) was reported by residents as a major environmental problem and cause of conflicts in the region (IDESAM 2011).

As noted by Ecológica Assessoria (2021), firewood harvesting is also an important economic product within the reference region, mainly in Nova Aripuanã, representing more than 70% of the total wood harvested in this municipality. However, as detailed in section 3.4 Baseline Scenario (Leakage belt), timber logging (roundwood) showed the highest production values within the reference region during the 2010- 2019 period. Although wood harvesting represented by higher timber production was concentrated in the municipalities of Novo Aripuanã and Colniza, copaiba oil and resin from the trees of the genus Copaifera were predominant in Apuí.

Highway BR-230 is the main means by which offtake of most of the production is carried out and provides the link with Porto Velho, the capital of Rondônia State, which is the primary market for the livestock and agriculture market of Apuí. Some segments of the highway are still unpaved and are impassable during the rainy season between December and April, hindering and increasing the price of transport of people and merchandise (Carrero 2009).

Social conflict issues, primarily land conflict, are common in these regions because they lie at the frontiers of the arc of deforestation and contain a large quantity of unoccupied lands. The following activities are characteristic of the region: forced land settling by squatters or timber harvesters; illegal deforestation and gold, diamond and cassiterite mining present in many of Amazonia's watersheds (SDS 2007).

Until the early 1960s, the region remained virtually wild and little known, but the construction of Brasília, inaugurated in 1960, and the opening of new roads such as the Belém-Brasilia highway (BR-060), eventually attracted migrants from other regions of Brazil.

More recently, State policies such as the National Integration Program (NIP, or Programa de Integração Nacional, PIN, in Portuguese), created in 1970 with a view to colonizing the Amazon, led to the clearing of new roads in the region, allowing the implementation of colonization programs as an incentive to immigration, primarily in the South and Southeast of the country, creating a great social diversity in the region. The aim was to populate the region with small and medium-sized farmers able to diversify production, opening new markets and securing the territory of the Amazon. These communities, initially entirely rural, grew and expanded into urban centers, driven mainly by the creation of the Trans-Amazonian Highway (BR-230) (IDESAM 2011).

The lack of alternatives in the frontier region has led many migrants to experiment with alternative income generation options. However, the lack of a resolution regarding land-tenure issues has contributed to reducing the number of legal production options, such as for example, sustainable forest management, and continues to promote deforestation associated with livestock farming and land speculation in this region which concentrates the largest deforested area in southern Amazonas State. According to research carried out by IDESAM, the region has suffered from an urgent need to carry out restructuring at a local level, which needs investment in structure, equipment, and human resources to attend to the issues surrounding land-tenure (IDESAM 2011b).

Thus, the population in the two municipalities of the reference region, Apuí and Novo Aripuanã, increased during the 2010– 2020 period, from 18,007 to 22,359 in the case of Apuí, and 21,451 to 26,046 in the case of Novo Aripuanã. Therefore, the average annual growth rates across the analyzed period for the main municipalities were 1.95% and 1.76% per year, respectively (IBGE 2020). This increase is indicative of the human pressure causing forest clearance in the region, given the demand for new lands, for subsistence and income generation.

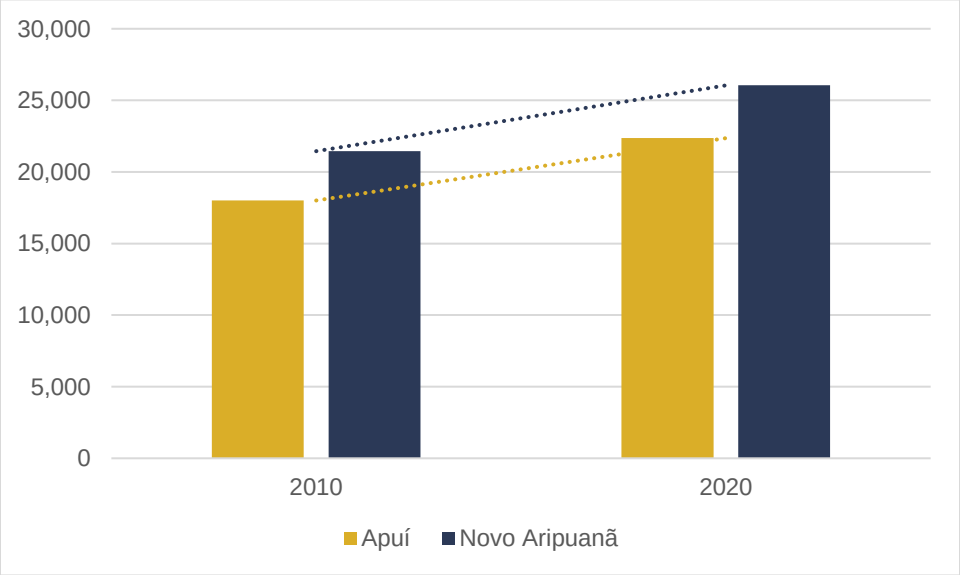

Figure 7. Population growth in the two municipalities of the reference region (Source: IBGE)[11]

Biodiversity

Brazil harbors the greatest concentration of biodiversity on the planet. It has a great abundance of lifeforms, which translates to over 20% of the total species on earth, making Brazil the main nation among the 17 countries with the highest biodiversity levels globally, which contain over 70% of the planet's biodiversity (MMA – 1).

[11] Source, IBGE (accessed 13/07/21): https://cidades.ibge.gov.br/brasil/am/apui/panorama; https://cidades.ibge.gov.br/brasil/am/novo-aripuana/panorama

Brazil has the greatest flora species richness, with 45,835 species described. Furthermore, it contains over 7,000 known species of vertebrates consisting of 692 mammals and 1,026 amphibians, 744 reptiles, 1,901 birds and in the region of 3,000 fish species. It is estimated that between 96,660 and 129,840 of invertebrate species are known. estimated number of known species in Brazil is approximately 170 to 210 thousand, while the total number of species that the country harbors is approximately 1.8 million, putting the known proportion of biodiversity at a mere 11%. New species are described every day in Brazil (MMA – 2).

It is estimated then that approximately 10% of all the planet's biodiversity is found in the project region, including many threatened species and those which exist only in Amazonia, or endemic species (WWF Brasil, 2010).

Two aspects are important in relation to the biological context of the region: (1) biodiversity levels are high because it is a contact region between two biomes, which is at constant risk due to the proximity to the Brazilian arc of deforestation; and (2) at the same time, truly little is known about this region's biological diversity species (WWF Brasil, 2014 – 2).

The project area and reference region overlap with Brazilian protected areas, which are part of the Southern Amazon Mosaic. This Mosaic is composed by around 40 National and State protected areas, totaling more than 7 million hectares (WWF 2010). This ecological corridor is especially important for biodiversity conservation, located in a region suffering from high deforestation pressure due to the expansion of agricultural and livestock activities towards the Amazon rainforest (SDS 2007). In addition, the Mosaic helps to maintain endemism, preserving these continuous forest environments (north-south forest connection) and ensuring the maintenance of gene flow of species, together with containing the advancement of invasive species from other environments. Figure 19 below shows the protected areas and indigenous lands in the Evergreen REDD+ Project region.

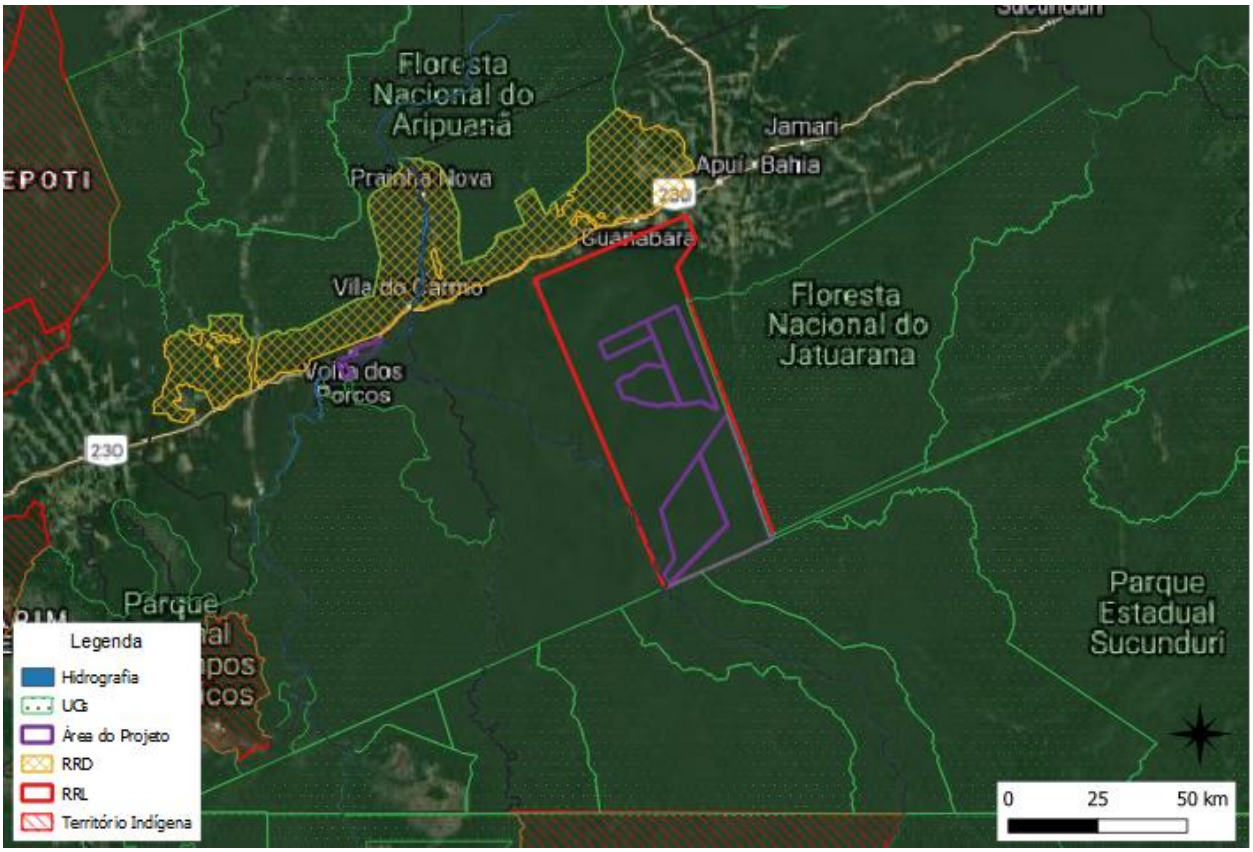

Figure 8. Protected areas and Indigenous Territories in the Evergreen REDD+ Project region

Table XX Species listed by IUCN as vulnerable or endangered categories in Brazil and project region

Vegetation Cover

The properties composing the project area are 100% covered by native Amazonian vegetation. Satellite analysis of the project region was conducted via Mapbiomas[12]. Four vegetation types were found in the area, which are described below, along with their respective proportions of the PA's area:

Table 4. Vegetation types within the project area

Vegetation type	Area (ha)	Longitude
Dense tropical submontane rainforest	67,928.95	52%
Open tropical submontane forest	61,397.32	47%
Alluvial dense tropical rainforest	1,306.33	1%
Lowland dense tropical rainforest:	0.00	0%
TOTAL	130,632.60	100%

[12] Source Mapbiomas: https://mapbiomas.org/

1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

The following documents demonstrate compliance of the project with all and any relevant local, regional, and national laws, statutes, and regulatory frameworks.

Regulatory Frameworks: Operation License (Licença de Operação)

Granted by the State of Amazonas, The Operational License is the document attesting that wood extraction performed inside the Project Area is following State Laws. All the documents in their entirety are available for consultation by the audit team.

The following definitions of the Brazilian Forest Code stand out as being relevant:

"III – Legal Reserve (LR): area located inside a rural estate, excluding the Area of Permanent Preservation, necessary for sustainable use of natural resources, conservation and recovering of ecological processes to conservation of biodiversity and to shelter and protection of native fauna and flora.

VI – Legal Amazon: the States of Acre, Pará, Amazonas, Roraima, Rondônia, Amapá and Mato Grosso, and the regions located to the North of parallel 13ºS, in States of Tocantins and Goiás, and to the West of meridian 44ºW, of the State of Maranhão."

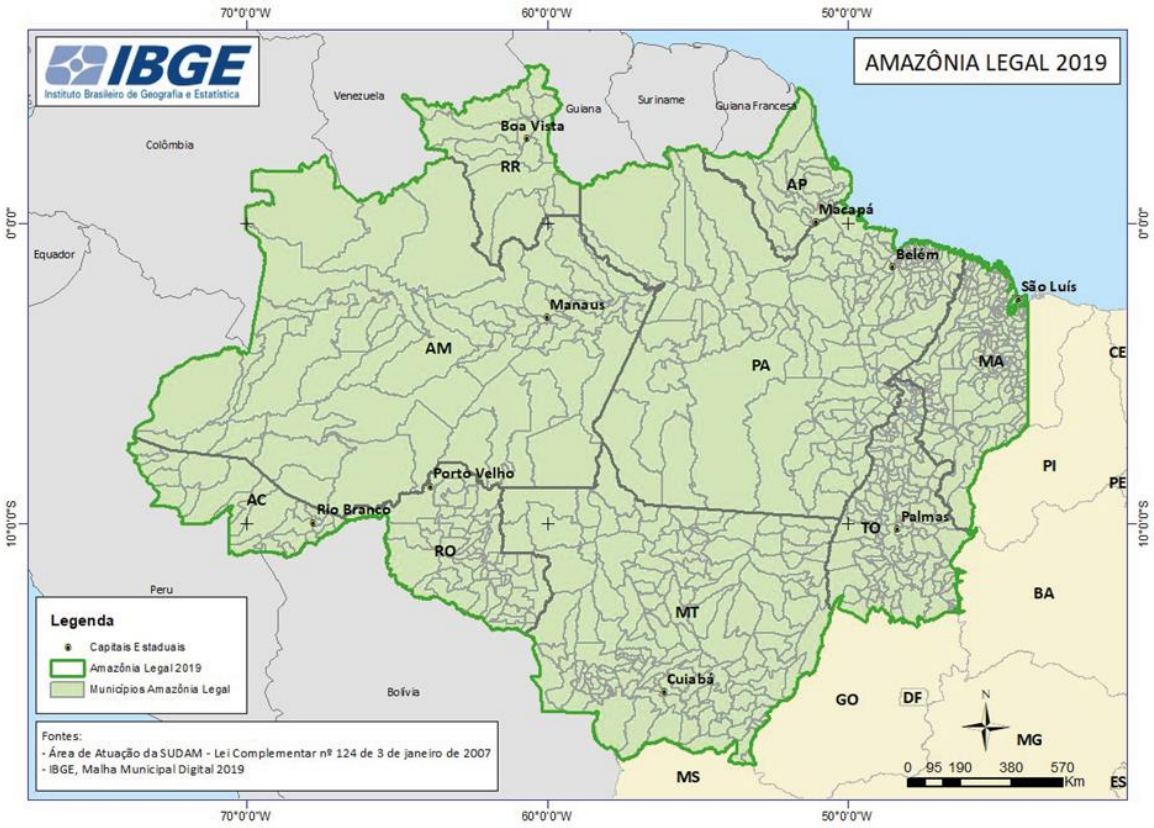

Figure 9 The Brazilian Legal Amazon States Acre (AC), Amapá (AP), Amazonas (AM), Maranhão (MA), Mato Grosso (MT), Pará (PA), Rondônia (RO), Roraima (RR), Tocantins (TO) (ancient North of Goiás). Source: IBGE (2019).

The Legal Reserve (LR) must be registered in property deed in the Real Estate Registry Office: its location must be officially known, and future landowners must know where it is located, its boundaries and frontiers. The LR can be located anywhere inside a rural estate. Brazilian Forest Code determines that, once allocated, LR may not be changed even in cases of real estate transfer, land dismembering or area rectification.

The LR allocation is a prerequisite to obtaining permission to exploit the native vegetation existing inside the rural estate. To obtain this Permit for Forestry Stewardship, the landowner must previously register the location of the LR in land property documents through the Real Estate Registry Office, before suppressing any kind of native vegetation.

According to Provisory Measure No. 2166-67 (Medida Provisória nº 2.166-67) of August 24, 2001:

"*Article 16. The forests and other types of native vegetation, excepting those located in Areas of Permanent Preservation, as well as those not subject to the politics of restricted use or subject to specific legislation, are susceptible to suppression, as long as a portion of vegetation is preserved, as Legal Reserve, at a minimum:*

I – eighty percent (80%), in rural estates located in forest zones located in the Legal Amazon."

Thus, in compliance with Brazilian Forest Code, the farms have officially allocated 80% of their total area as LR.

Despite the legal provisions intended to preserve at least 80% of the Amazon Forest coverage, lack of law enforcement by local authorities along with public policies seeking to increase commodities production and encourage land use for agricultural, bio energy and cattle breeding purposes created a scenario of almost complete disregard of the mandatory provisions of the Forest Code. High rates of criminality associated with land disputes usually jeopardize efforts concerning law enforcement improvement. In addition to that, to cover vast distances of areas with low demographic density makes tracking of illegal activities and land surveillance exceedingly difficult for the authorities. Accordingly, policies implemented to address illegal deforestation only by means of command-and-control approaches have proven to be ineffective so far (IPAM, 2011).

Given the frequent attempts to invade or enact a land grab on the Project Area, the project proponents use their best efforts to prevent property invasion and to remain in compliance with Brazilian Forest Code.

1.15 Participation under Other GHG Programs

1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

Indicate whether the project has been registered, or is seeking registration under any other GHG programs. Where the project has been registered under any other GHG program, provide the registration number and details.

1.15.2 Projects Rejected by Other GHG Programs

Indicate whether the project has been rejected by any other GHG programs. Where the project has been rejected, provide the relevant information, including the reason(s) for the rejection and justification of eligibility under the VCS Program.

1.16 Other Forms of Credit

1.16.1 Emissions Trading Programs and Other Binding Limits

Indicate whether the project reduces GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading, and include details about any such programs or mechanisms. Where applicable, demonstrate that GHG emission reductions and removals generated by the project will not be used for compliance under such programs or mechanisms. Examples of appropriate evidence are provided in the VCS Standard*.*

1.16.2 Other Forms of Environmental Credit

Indicate whether the project has sought or received another form of GHG-related environmental credit, including renewable energy certificates. Include all relevant information about the GHG-related environmental credit and the related program.

List all other programs under which the project is eligible to participate (to create another form of GHG-related environmental credit).

1.17 Additional Information Relevant to the Project

Leakage Management

Although there is a risk of leakage, the proponents believe that the Project will have positive impacts on surrounding areas. This Project might be a successful example of the following technical and economic aspects:

I. Sustainable management of forest resources generating success and profit;

II. Additional return to forest management, due to REDD incentives, which can compensate avoiding deforestation for other activities;

III. Positive example of sustainable real estate maintenance, in addition to profits with sustainable management plus REDD revenues.

According to reasons above, the Project may well stimulate other landowners to adhere to this Project concept.

By means of Project monitoring activities, satellite imaging, and social and governmental cooperation for monitoring the Project and its surroundings, the project proponent believes that the success of this business plan will generate an increased number of sustainably managed areas with REDD+.

The main leakage management activities are outlined below:

- Technical Training on Sustainable Cattle Raising: the objective of this initiative will be qualifying labour that finds little opportunity to work in the region and ends up taking part in illegal settlements and land occupation. It is expected that this initiative will benefit 15 students every year. Students and technicians of both sexes will be eligible for registrations, with the previous requirement of having finished the basic studies (middle school).

- Forest management courses: Courses on forest management methods will be offered to the internal workers for updating on techniques and practices and to train new employees. The standardization procedure for these trainings is available for auditing.

- Support of SEMA – AM's activities (Secretaria de Estado do Meio Ambiente do Amazonas; Amazonas State Secretariat of Environment): SEMA will benefit from having, under its jurisdiction, a third example of an innovative REDD model – the first two being the nearby Fortaleza Ituxi REDD Project and Unitor REDD+ Project, also developed by Carbonext – that can be further replicated on other properties. It will continue to raise the public profile of the current administration, providing visibility and methodological advances in environmental preservation.

- Surveillance activities designed to mitigate illegal logging and land occupation in the area will be achieved through the Evergreen REDD+ Project. By continuing to promote an increase in the number of REDD Projects in the region, whenever feasible, as well as sustainable forest management plans, the project aims to impact deforestation and degradation significantly. This process will be further consolidated through combined efforts with private and governmental entities, and NGOs. In this context, the project proponent will spearhead political mobilization of the regional forest sector and continue to reinforce the engagement of all sectors involved in deforestation issues, in the long term. The main condition for execution of this activity is the approval and validation of the Evergreen REDD+ Project, which will be a further important benchmark for engagement of all potential private landowners in the Apuí region.

- Potential Roll-out to Other Areas: Evergreen already being the project proponent's third REDD activity in the region, further areas with potential for REDD projects have already been identified around the project site, which will favour and encourage forest conservation by means of financial incentives obtained from credit sales and provide social and environmental benefits to local communities.

- Combatting illegal land occupation: The local community will be strategic in monitoring illegal land occupation and potential illegal logging. Those who are interested in being trained and carrying out local monitoring will be included in the project, an activity which may also become a new source of income for local communities.

Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the project description.

Sustainable Development

The Evergreen REDD+ Project complies with the logic of the environmental priorities defined by the Brazilian Federal Administration, which, in the course of COP 14 Conference held in Poznan, Poland, in December 2008, declared a deforestation reduction goal of 70% by the year 2018, and following that, further goals of achieving zero illegal deforestation by 2030, and offsetting of greenhouse gas emissions originating from legal removal of vegetation. The latter are elements of the Brazilian NDC, which the country aims to adopt within the framework of the Paris Climate

Accords (COP-21)[13]. In order to attain this goal, it will be necessary to join government initiatives with independent actions (such as that proposed under the present project).

The map below shows the strategic zone for "Containment of the expansion fronts with protected areas and alternative uses", which was established by the MacroZEE/AL (Macrozoneamento Ecológico-Econômico da Amazônia Legal; Ecological and Economic Macro-zoning of Amazon) from the Brazilian Ministry of Environment[14], which encompasses the Project Area. The MacroZEE/AL aims to establish strategic indications of occupation and use of land on a sustainable basis to guide, at the regional scale, the development and spatial distribution of public development policies, territorial and environmental planning, as well as the decisions of private agents. Due to its shield function for the heart forest protection, this territorial unit deserves strengthening policies. In this context, the Evergreen REDD+ Project aligns with the strategies set up by the MacroZEE/AL of the Brazilian Ministry of Environment.

Figure 10. Containment of the expansion fronts with protected areas and alternative uses (Source: Brazilian Ministry of the Environment – MMA)

Due to the increase in deforestation in the Legal Amazon, the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm; Plano de Ação para a Prevenção e Controle do Desmatamento na Amazônia Legal) came into effect, starting mitigation and ongoing

[13] Source MMA (accessed 19/04/21): http://redd.mma.gov.br/pt/redd-e-a-indc-brasileira

[14] Source MMA (accessed 23/03/21): https://antigo.mma.gov.br/component/k2/item/8200-figuras

actions to reduce deforestation. The Evergreen REDD+ Project is in line with main PPCDAm premises[15].

This project therefore represents an enormous potential to continue the work started by Fortaleza Ituxi REDD Project and Unitor REDD+ Project: assisting the Federal Administration and state agencies to attain these goals and leverage further pilot REDD projects at the municipal level, ensuring priority for the municipalities facing critical deforestation levels, as in the case of Apuí.

Further Information

No further information to disclose.

2 SAFEGUARDS

2.1 No Net Harm

Summarize any potential negative environmental and socio-economic impacts and the steps taken to mitigate them.

2.2 Local Stakeholder Consultation

Describe the process for, and the outcomes from, the local stakeholder consultation conducted prior to validation. Include details on the following:
The procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought).

The procedures or methods used for documenting the outcomes of the local stakeholder consultation.

The mechanism for on-going communication with local stakeholders.

How due account of all and any input received during the consultation has been taken. Include details on any updates to the project design or justify why updates are not appropriate.

For AFOLU projects, also demonstrate how the project has or will communicate the following:
The project design and implementation, including the results of monitoring.

The risks, costs and benefits the project may bring to local stakeholders.

All relevant laws and regulations covering workers' rights in the host country.

The process of VCS Program validation and verification and the validation/verification body's site visit.

[15] Source Brazilian Government (accessed 19/04/2021): https://www.gov.br/agricultura/pt-br/acesso-a-informacao/acoes-e-programas/ppa/plano-plurianual-ppa-2016-2019-1/relatorio_avaliacao_programa_2050-mudanca_do_clima.pdf

2.3 Environmental Impact

Summarize any environmental impact assessments carried out with respect to the project, where applicable.

2.4 Public Comments

Demonstrate how due account of all and any comments received during the public comment period has been taken. Include details on any updates to the project design or demonstrate the insignificance or irrelevance of comments.

2.5 AFOLU-Specific Safeguards

For AFOLU projects, provide details on the following:
Local stakeholder identification process and a description of results.

Risks to local stakeholders due to project implementation and how the project will mitigate such risks.

Risks to local stakeholder resources due to project implementation and how the project will mitigate such risks, including the plans to ensure the project will not impact local stakeholder's property rights without the free, prior and informed consent.

Processes to ensure ongoing communication and consultation with local stakeholders, including a grievance redress procedure to resolve any conflicts which may arise between the project proponent and local stakeholders.

For AFOLU projects with no impacts on local stakeholders, provide evidence of such.

For non-AFOLU projects, this section is not required.

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

Approved VCS Methodology VM0007 "REDD+ Methodology Framework (REDD+ MF)", Version 1.6, 08 September 2020. At: https://verra.org/wp-content/uploads/2020/09/VM0007-REDDMF_v1.6.pdf (last visited 18/05/2021).

Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (T-ADD), Version 01, 19 Oct 2007 At: https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-02-v1.pdf (last visited 15/07/21)

CDM – Executive Board "Tool for testing significance of GHG emissions in A/R CDM project activities (Version 01)" EB 31. At: https://cdm.unfccc.int/methodologies/ARmethodologies/tools/aram-tool-04-v1.pdf (last visited 03/03/2021).

AFOLU "Non-Permanence Risk Tool" VCS Version 4, Procedural Document, 19 September 2019, v4.0. At: http://www.v-c-s.org/program-documents (last visited 18/05/2021).

3.2 Applicability of Methodology

The VM0007 REDD+ Methodology Framework is applicable to both Avoided Unplanned Deforestation (AUD) and Avoided Planned Deforestation (APD) project types, both of which apply to this project, and which fall under the AFOLU project category "REDD" as defined in the VCS AFOLU Guidance document.

The selected modules, along with their VCS site descriptions and applicability conditions, are detailed below, showing their correspondence to the project-specific conditions:

VMD0001 "Estimation of carbon stocks in the above- and belowground biomass in live tree and non-tree pools" (CP-AB), v1.1: "This module allows for ex ante estimation of carbon stocks in above- and belowground tree and non-tree woody biomass in the baseline case (for both pre- and post-deforestation stocks) and project case and for ex post estimation of change in carbon stocks in above- and belowground tree biomass in the project case". This module is applicable to all forest types and age classes. Inclusion of the aboveground tree biomass pool as part of the project boundary is mandatory as per the framework module REDD-MF.

VMD0005 "Estimation of carbon stocks in the long-term wood products pool" (CP-W), v1.1: "This module allows for ex-ante estimation of carbon stocks in the long-term wood products pool in the baseline case. Carbon stocks treated here are those stocks remaining in wood products after 100 years; the bulk of emissions associated with timber harvest, processing and waste, and eventual product retirement occur within this timeframe, and this module employs the simplifying assumption that the proportion remaining after 100 years is effectively 'permanent'". This module is applicable to all cases where wood is harvested for conversion to wood products for commercial markets, for all forest types and age classes. This module is applicable in the baseline, as the wood products pool is included as part of the project boundary as per applicability criteria in the framework module REDD-MF, specifically: i) Timber harvest occurs prior to or in the process of deforestation, and timber is destined for commercial markets; ii) The wood products pool is determined to be significant (using T-SIG).

VMD0006 Estimation of baseline carbon stock changes and greenhouse gas emissions from planned deforestation/forest degradation and planned wetland degradation (BL-PL), v1.3: "This module allows for estimating carbon stock changes and GHG emissions related to planned deforestation, planned forest degradation and planned wetland degradation in the baseline scenario.

The module was revised on 8 September 2020 by Restore America's Estuaries and Silvestrum Climate Associates to expand its applicability to activities on tidal wetlands."

The module is applicable for estimating the baseline emissions on forest lands (usually privately or government owned) that are legally authorized and documented to be converted to non-forest land. Where, pre-project, unsustainable fuelwood collection is occurring within the project boundaries Modules BL-DFW and LK-DFW must be used to determine potential leakage.

VMD0007 "Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation and unplanned wetland degradation" (BL-UP), v3.3: "This module allows for estimating carbon stock changes and GHG emissions related to unplanned deforestation and unplanned wetland degradation in the baseline scenario. Forest degradation is not considered.

This module was assessed and approved as part of VM0007.

The module was revised on 31 July 2012 by The Field Museum to improve uncertainty estimates in the baseline scenario and allow for new modeling approaches (version 3.0). The revision assessment reports are available on the VMD0017 (X-UNC) page.

The module was revised on 8 September 2011 by The Field Museum to add population as an option for estimating the baseline deforestation rate (version 2.0).

The module was revised on 8 September 2020 by Restore America's Estuaries and Silvestrum Climate Associates to expand its applicability to activities on tidal wetlands."

The applicability conditions of the module state that "The module is applicable for estimating baseline emissions from unplanned deforestation (conversion of forest land to non-forest land in the baseline case). The following conditions must be met to apply this module. The forest landscape configuration can be mosaic, transition, or frontier.

The module must be applied to all project activities where the baseline agents of deforestation:

(i) clear the land for settlements, crop production (agriculturalist), ranching or aquaculture, where such clearing for crop production, ranching or aquaculture does not amount to large scale industrial agri/aquaculture activities;"

And the above is the case for the present project activity , as the driver is deforestation for the purposes of timber harvesting and subsequent cattle farming. The Brazilian Forest Code defines "small rural property" or "or rural family landholding" as lands not larger than 150 hectares in the State of Amazonas[16]. From the project proponent's own research in the same municipality[17], from 66 rural producers interviewed, their properties range from 50 to a maximum of 100 hectares.

[16] Source: http://www.planalto.gov.br/ccivil_03/leis/L4771.htm

[17] Source, The Unitor REDD+ Project: https://registry.verra.org/app/projectDetail/VCS/2508

(ii) "have no documented and uncontested legal right to deforest the land for these purposes; and"

(iii) "are either resident in the region (reference region—cf. Section 1 below) or immigrants."

The above two criteria have been found to apply without exception to the 66 family producers interviewed in the same municipality[18].

VMD0009 Estimation of emissions from activity shifting for avoided planned deforestation/forest degradation and avoided planned wetland degradation (LK-ASP), v1.3:

"This module allows for estimating GHG emissions caused by the activity shifting leakage of planned deforestation carbon projects.

The module was revised on 8 September 2020 by Restore America's Estuaries and Silvestrum Climate Associates to expand its applicability to activities on tidal wetlands."

The module is applicable for estimating the leakage emissions due to activity shifting from forest lands that are legally authorized and documented to be converted to non-forest land, including activity shifting to forested wetland that is drained or degraded because of project implementation. The module is also applicable for estimating the leakage emissions due to activity shifting from non-forested wetlands that are legally authorized and documented to be converted and degraded. Under these situations, displacement of baseline activities can be controlled and measured directly by monitoring the baseline deforestation or wetland degradation agents or class of agents.

This tool must be used for projects in areas where planned deforestation happens on forested wetlands, regardless of the absence of wetland within the project boundaries.

The module is mandatory if Module BL-PL has been used to define the baseline, and the applicability conditions in Module BL-PL must be complied with in full.

VMD0010 Estimation of emissions from activity shifting for avoiding unplanned deforestation and avoiding unplanned wetland degradation (LK-ASU), v1.2:

"This module provides methods for estimating emissions from displacement of unplanned deforestation and unplanned wetland degradation (leakage due to activity shifting).

The module was revised on 8 September 2020 by Restore America's Estuaries and Silvestrum Climate Associates to expand its applicability to activities on tidal wetlands."

This module is applicable for estimating carbon stock changes and greenhouse gas emissions related to the displacement of activities that cause deforestation of lands or wetland degradation

[18] Source, The Unitor REDD+ Project: https://registry.verra.org/app/projectDetail/VCS/2508

outside the project area due to avoiding unplanned deforestation or avoiding unplanned wetland degradation in the project area.

Activities subject to potential displacement are conversion of forest land to grazing lands, crop lands, and other land uses, or conversion of intact or partially degraded wetlands to drained or degraded wetlands.

The module is mandatory if module BL-UP has been used to define the baseline and the applicability conditions in module BL-UP must be complied with in full.

VMD0011 "Estimation of emissions from market-effects" (LK-ME), v1.1:

"This module allows for estimating GHG emissions caused by the market-effects leakage related to extraction of wood for timber, fuelwood or charcoal in the baseline for carbon projects".

This module is applicable for calculating market-effects leakage from REDD projects that are anticipated to reduce levels of wood harvest substantially and permanently. When REDD project activities result in reductions in wood harvest, it is likely that production could shift to other areas of the country to compensate for the reduction.

As referenced in the Framework (REDD-MF) the module is mandatory where:

- The process of deforestation involves timber harvesting for commercial markets[19].
- The baseline is calculated using BL-DFW AND fuel wood or charcoal is harvested for commercial markets.

In all other circumstances the module shall not be used.

When REDD project activities result in reductions in wood harvest, it is likely that production could shift to other areas of the country to compensate for the reduction. The module is mandatory where the process of deforestation involves timber harvesting for commercial markets (Commercial markets are here defined as sale of products to end users and public and private companies with sales conducted distant (>50 km) from the project area).

VMD0013 "Estimation of greenhouse gas emissions from biomass burning" (E-BB), v1.2:

"This module provides a step-wise approach for estimating greenhouse emissions from biomass and peat burning.

[19] Commercial markets here defined as sale of products to end users and public and private companies with sales conducted distant (>50km) from the project area

The module was revised on 8 September 2020 by Restore America's Estuaries and Silvestrum Climate Associates to expand its applicability to activities on tidal wetlands."

This module is applicable to REDD project activities with emissions from biomass burning and REDD-WRC project activities with emissions from biomass and/or peat burning. This module is also applicable to RWE and ARR-RWE project activities with emissions from peat burning.

In the baseline scenario, fire is used to clear the land, and emissions of CO2, N2O and CH4 result. Where used in the baseline, accounting must occur under both the baseline and with project scenarios in both the project area and in the leakage belt. Where fires occur ex-post in areas that coincide with areas deforested or degraded in the baseline case, the module shall be used to account greenhouse gas emissions.

VMD0016 "Methods for stratification of the project area" (X-STR), v1.2:

"This module provides guidance on stratifying the project area into discrete, relatively homogeneous units to improve accuracy and precision of carbon stock and carbon stock change estimates.

The module was revised on 8 September 2020 by Restore America's Estuaries and Silvestrum Climate Associates to expand its applicability to activities on tidal wetlands".

Any module referencing strata i shall be used in combination with this module. Strata are only used for pre-deforestation forest classes and are the same in baseline and project cases. Post-deforestation (conversion) land-uses are not stratified, instead using average post-deforestation stock values (e.g., "Simple Conservative" or "Historical Area-weighted" approaches per BL-UP).

VMD0017 "Estimation of uncertainty for REDD project activities" (X-UNC), v2.2.

"This module allows for estimating uncertainty in baseline estimations and in estimations of with-project sequestration, emissions and leakage.

The module was revised on 31 July 2012 by The Field Museum to improve uncertainty estimates in the unplanned deforestation baseline scenario (v2.0).

The module was revised on 8 September 2020 by Restore America's Estuaries and Silvestrum Climate Associates to expand its applicability to activities on tidal wetlands."

This module is mandatory when using methodology REDD+ MF. It is applicable for estimating the uncertainty of estimates of emissions and removals of CO2-e generated from REDD and WRC project activities. The module focuses on the following sources of uncertainty:

- Determination of rates of deforestation and degradation;
- Uncertainty associated with estimation of stocks in carbon pools and changes in carbon stocks;

- Uncertainty associated with estimation of peat emissions;
- Uncertainty in assessment of project emissions.

Where an uncertainty value is not known or cannot be simply calculated, a project must justify that it is using an indisputably conservative number and an uncertainty of 0% may be used for this component.

Guidance on uncertainty – a precision target of a 95% confidence interval half-width equal to or less than 15% of the recorded value must be targeted. This is especially important in terms of project planning for measurement of carbon stocks; sufficient measurement plots should be included to achieve this precision level across the measured stocks.

VT0001 "Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" (T-ADD), v3.0.

This tool is applicable when AFOLU activities on the land within the proposed project boundary do not lead to violation of any applicable law even if the law is not enforced. The use of this tool to determine additionality requires the baseline methodology to provide for a stepwise approach justifying the determination of the most plausible baseline scenario.

3.3 Project Boundary

The project area is composed of three properties, of which the main geodetic coordinates of the Project Area, are as follows, applying the Latitude/Longitude coordinate system. The complete set of coordinates, is available upon request:

Id	Latitude	Longitude
5	-7.789	-59.871
6	-8.095	-59.748
7	-8.227	-60.023
8	-8.031	-60.039
1	-7.609	-60.194
2	-7.515	-59.999
3	-7.776	-59.895
4	-7.746	-60.135

Geographic coordinates Datum WGS 84

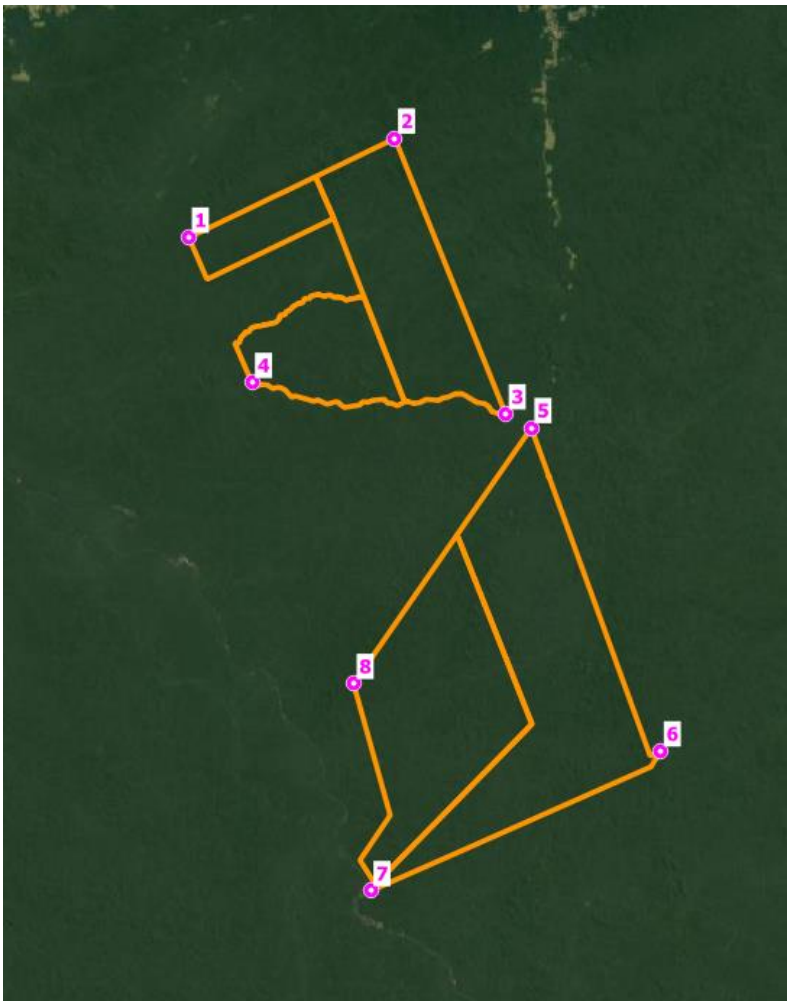

Figure 11. Project boundaries and coordinate points

The project area – defined in accordance with the methodology's rules – as well as the size of the reference region and the leakage belt, are displayed in the Table below:

Table 5. Project Area, Leakage Belt, and Reference Region forest areas

Name	Net Forest Area (ha)
Project Area	130,632.60
Leakage Belt	122,515.10
Reference Region (RRL)	354,226.96
Reference Region (RRD)	283,608.83

The VM0007 Methodology includes the six carbon pools listed in the Table below, indicating whether they were included or excluded within the proposed AUD and APD project activity, as well as their respective justifications.

Source		Gas	Included?	Justification/Explanation
Baseline	Biomass burning	CO_2	Excluded	Excluded as recommended by the applied methodology. Counted as carbon stock change.
		CH_4	Included	Included as non-CO2 emissions from biomass burning in the baseline scenario, according to the methodology.
		N_2O	Included	Included as non-CO2 emissions from biomass burning in the baseline scenario, according to the methodology.
		Other	Excluded	No other GHG gases were considered in this project activity.
	Livestock emissions	CO_2	Excluded	Not a significant source
		CH_4	Excluded	Excluded for simplification. This is conservative.
		N_2O	Excluded	Excluded for simplification. This is conservative.
		Other	Excluded	No other GHG gases were considered in this project activity.
Project	Biomass burning	CO_2	Excluded	No biomass burning increase is predicted to occur in the project scenario compared to the baseline case. Therefore, considered insignificant.
		CH_4	Included	Included as non-CO2 emissions from biomass burning in the project scenario, according to the methodology.
		N_2O	Included	Included as non-CO2 emissions from biomass burning in the project scenario, according to the methodology.
		Other	Excluded	No other GHG gases were considered in this project activity.
	Livestock emissions	CO_2	Excluded	Not a significant source.
		CH_4	Excluded	No livestock agriculture increase is predicted to occur in the project scenario compared to the baseline case. Therefore, considered insignificant.
		N_2O	Excluded	As above.
		Other	Excluded	No other GHG gases were considered in this project activity.

The map in the figure below showing the following project regions, and the various outline colors:

- PA – the Project Area (blue);

- RRD – Reference region for projecting rate of deforestation (yellow);
- RRL – Reference region for projecting location of deforestation (purple);
- LB – and leakage belt (red).

Figure 12. Project area boundaries: PA; RRD; RRL; LB.

3.4 Baseline Scenario

Forest land is expected to be converted to non-forest land in the baseline scenario. The landowners cannot afford efforts and costs to keep long-term vigilance of the project boundaries to avoid unplanned deforestation from uncontrolled invasions.

Furthermore, the project assumes of an approved planned deforestation plan within a 2,793.75 ha subsection (20%) of the Aroeira property (see Figure below). According to this plan, the area would be clear-cut, with wood to be sold on the timber and fuelwood markets, followed by transformation of deforested areas into pasturelands.

In this context, the project falls within the AFOLU REDD categories of both Avoided Unplanned Deforestation (AUD), and Avoided Planned Deforestation (APD).

Regarding AUD: Selection of the most probable baseline scenario for the project

The project properties are unable to afford large-scale long-term costs and efforts for surveillance of their lands. There have been events of trespassing within the historical reference period and communities unofficially living within the project boundaries.

Furthermore, the sustainable forest management component of the project is under considerable pressure from other economic activities conducted in areas surrounding the properties, related to land grabbing and to extensive cattle-raising, in addition to the difficulties inherent to the development of forestry stewardship, which is currently undergoing a crisis in Brazil.

As the landowners have received offers for land purchase over the historical reference period, and given the difficulties faced with sustainable forest management and land tenure at present, sale of land is an alternative means to alleviate expenses relating to surveillance and legal assistance. In the latter case, it is highly probable that new landowners will prioritize activities involving deforestation and installation of the most common land uses in the region (i.e., pasture for cattle ranching).

Regarding AUD: Description of baseline scenario adopted

According to the descriptions above, it is expected that unplanned deforestation is most likely to occur in the Project Area in case of absence of the REDD Project. The rate of deforestation adopted for calculation of REDD Project benefits was obtained from the Mapbiomas database.

In the absence of the REDD project, it is assumed that the property would certainly undergo the same deforestation intensity as other neighboring lands.

Above- and belowground carbon pools were determined by means of a literature survey regarding the Project region. Considering that the baseline process of deforestation involves timber harvesting for commercial markets, the content of carbon fixed into long-term wood products was also considered in calculation of net deforestation emissions. It is assumed that the Project Activity preserves soil organic carbon and litter pools to a greater extent than BAU activities. However, for conservativeness purposes, the project proponents decided not to include the soil and litter carbon pools in the REDD Project benefits.

Fossil fuel emissions were not accounted for in the Reference Area (baseline case) or for the Project Activity. It is assumed that the Project Activity also reduces emissions from fossil fuel burning, in comparison with BAU activities. However, this factor was also not accounted for conservativeness purposes and difficulties in monitoring during the project period.

Regarding the APD component of the baseline

The following annual activities were planned within the deforestation schedule:

May to October – clear-cut area and harvest timber wood

November to December – remove any remaining vegetation by burning

December to January – aerial grass seeding

July – purchase livestock and begin grazing activities

The baseline will be revised three years after the project validation.

Regarding APD: Deforestation Agent

The agent of deforestation regarding the Avoided Planned Deforestation component of the project is the proponent, Ituxi Administração e Participação Ltda.

3.5 Additionality

According to the procedure defined in the VM0007 methodology, the latest version of the tool referenced in T-ADD was used to identify credible alternative land use scenarios and evaluate both the alternatives and the proposed project scenarios, and to demonstrate the additionality of the project:

"Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (T-ADD)" (Version 01)"[20]

The tool is applicable to this project, given the statements below:

a. The project does not involve tidal wetland conservation and restoration;

b. The applied baseline module ("Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (T-ADD)", Version 1) allows for transparent identification of baseline scenario which further allows for conservative establishing of baseline net greenhouse gas removals by sinks for a proposed afforestation or reforestation project under the CDM.

The analysis was based on a literature survey on cash flows and financial indexes of BAU (Business as Usual) local activities, as well as on local data on project proponent's economic activities. Pasture (cattle-raising) was adopted as BAU for financial additionality analysis, as follows.

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

According to the step, "If project participants claim that the afforestation or reforestation CDM project activity has a starting date after 31 December 1999 but before the date of its registration, then the project participants shall:

I. Provide evidence that the starting date of the A/R CDM project activity was after 31 December 1999, and

II. Provide evidence that the incentive from the planned sale of CERs was seriously considered in the decision to proceed with the project activity. This evidence shall be based on (preferably official, legal and/or other corporate) documentation that was available to third parties at, or prior to, the start of the project activity."

[20] Source, CDM (accessed 15/07/21): https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-02-v1.pdf

Regarding point I. above, the project start date is defined as 25th November 2020, as it was the date that the project owner submitted a request to the official organ IPAAM, to obtain permission to deforest a legal proportion of the Aroeira property in the Project Area (PA).

The justification is that maintaining the PA forested was no longer judged to be financially viable without carbon credits by the project owner, as of that date. Evidence for this was duly provided at audit.

Regarding point II, the sale carbon credits, in this case VERs was seriously considered in the decision to proceed with the project activity. This is proven by internal communication between project owners prior to the project activity and by insufficient income from the project itself to sustain the project activities, which is argued in the subsequent steps of the additionality analysis below.

STEP 1. Identification of alternative land use scenarios to the AFOLU project activity

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

a) The identified credible non-excluding alternative land use scenarios to the proposed VCS AFOLU project activity include:

i) SCENARIO 1: Continuation of the pre-project land use: It is clear that the Project Area landowners will not be able to afford large long-term costs and efforts for vigilance of land property, mainly considering past deforestation pressures experienced in the Project Area. The business currently administrated in the Project Area is not financially attractive without complementary incentives (ex. carbon credits), as demonstrated in this VCS-PD. Thus, this is not the most plausible scenario.

ii) SCENARIO 2: Project activity on the land within the project boundary performed without being registered as the VCS AFOLU project: The Project Proponents will not be able to afford costs to implement the proposed Project Activity. For this purpose, the Project Proponents are acting to implement carbon crediting activities on their lands, to obtain supplementary income. The proposed Project Activity is not financially feasible without carbon credits.

iii) SCENARIO 3: Planned deforestation and logging of the area permitted by Law: This option would generate supplementary income to financially support long-term vigilance system; this would correspond to active deforestation of the property by landowner in the future.

iv) SCENARIO 4: Adoption of common land-use practices in the region (business as usual - BAU): This scenario includes deforestation beyond the limits established by

Brazilian Forest Code (generalized non-compliance, typically observed in the farm region); this would be the probable scenario, if no additional environmental values are attributed to the farm operation.

v) SCENARIO 5: Unplanned deforestation caused by uncontrolled invasions: This scenario is derived from the lack of ability to control borders in case of the current cash-flow scenarios with logging operations alone, which indicates the need for additional sources of income in the overall operation of the farm.

vi) SCENARIO 6: Farm sale to private investors (in this case, the regional BAU is probably the most plausible future scenario): In recent years, the Project Area landowners have been approached to sell their farms (some offers are documented). Registered evidence of interest in land purchase (e.g. purchase proposals) are available for consultation by auditors. All documents and records will be kept in a secure retrievable manner for at least two years after the end of the project crediting period.

b) All identified land use scenarios above may be deemed realistic and credible, as they currently exist and are technically feasible in the project region. For all land use scenarios, credibility is justified by current BAU practices attested by the literature and local observations.

c) Outcome of Sub-step 1a: The most credible alternative land use scenarios that could have occurred on the land within the project boundary are SCENARIOS 3 to 6, described above.

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

a) The following procedure was applied:

i) Demonstration that all land use scenarios identified in the sub-step 1a are in compliance with all mandatory applicable legal and regulatory requirements:

SCENARIO 3: Planned deforestation and logging of the area permitted by Law: In compliance with Brazilian Forest Code, the farm can officially allocate 80% of its total area as LR (Legal Reserve) for conservation. The remaining 20% of land could be deforested by license. Thus, this scenario is in compliance with legal and regulatory requirements.

SCENARIO 4: Adoption of common land-use practices in the region (business as usual - BAU): This scenario is in compliance with Brazilian Forest Code, as landowners in the project region can allocate 20% of farm land for cattle raising. This scenario would not be in compliance with the Law if landowners surpass the limit of 20% of deforestation in a given property, which is not expected to occur in the project area during the project lifetime, according to deforestation projections. Thus, this scenario is in compliance with legal and regulatory requirements.

SCENARIO 6: Farm sale to private investors (in this case, the regional BAU is probably the most plausible future scenario): This scenario is in compliance with Brazilian property laws, as the landowner can sell and transfer land rights to any other person or private company. Thus, this scenario is in compliance with legal and regulatory requirements.

ii) Demonstration that applicable mandatory legal requirements are systematically not enforced and that non-compliance with requirements is widespread:

SCENARIO 5: Unplanned deforestation caused by uncontrolled invasions: This scenario does not comply with all mandatory legislation and regulations. In the project region, it has been historically proved that governmental resources for fighting land invasions by squatters are not effective. In this context, land-grabbing is a widespread practice. The constant pressure on the Project Area by squatters is the primary reason why the Project Proponent is seeking for complementary financial resources to improve land protection. Thus, it is demonstrated that SCENARIO 5 is valid in the context of this project activity.

b) Outcome of Sub-step 1b: Is has been demonstrated that SCENARIOS 3 to 6 are plausible alternative land use scenarios to this VCS AFOLU project activity.

Sub-step 1c. Selection of the baseline scenario

For selection of the baseline scenario, Step 2 (Barrier analysis) has been chosen, instead of investment analysis.

STEP 2. Barrier analysis

This Step demonstrates that the proposed project activity faces barriers that prevent it to be implemented without the revenue from the sale of GHG credits.

Unplanned deforestation pressures are continuously perceived in the Reference Area, and would certainly affect the Project Area in the absence of an effective vigilance system. Both the Reference Area and the Project Area are subject to serious risks of land-grabbing by illegal organizations (i.e. family-scale land-grabber associations, land-property documentation forgers), mostly supported by unscrupulous sawmills and political interests.

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

According to T-ADD "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities", the project activity faces the following barriers:

Investment barriers:

- Debt funding is not available for this type of project activity;

- No access to international capital markets;
- Lack of access to credit.

Institutional barriers:

- Risk related to changes in government policies or laws;
- Lack of enforcement of forest or land-use-related legislation.

Barriers due to social conditions and land-use practices:

- Widespread illegal practices (e.g. illegal grazing, non-timber product extraction and tree felling);

Barriers relating to land tenure, ownership, inheritance, and property rights:

- Lack of suitable land tenure legislation and regulation to support the security of tenure;
- Possibilities of large price risk due to the fluctuations in the prices of products related to the project activity over the project period in the absence of efficient markets

The identified barriers above are sufficient grounds for demonstration of additionality, as they would prevent the Project Proponent from carrying out the proposed Project Activity if it was not expected to be registered as a VCS AFOLU project.

Sub-step 2b. Show that the identified barriers would not prevent the implementation of at least one of the alternative land use scenarios (except the proposed project activity):

Investment barriers: This barrier does not prevent any alternative land use scenario, as there are funding resources and credit lines for cattle raising activities in Brazil. Moreover, the implementation of cattle raising activities can be funded by initial capital obtained with timber sales after deforestation. On the other hand, there are no credit lines exclusively addressed to forest conservation.

Institutional barriers: This barrier hinders any legally compliant alternative land use scenario (SCENARIOS 3, 4 and 6), as it represents uncertainty to investors (Risk related to changes in government policies or laws), as well as unfair competition with non-compliant producers (Lack of enforcement of forest or land-use-related legislation).

Barriers due to social conditions and land-use practices: This barrier hinders any legally compliant alternative land use scenario (SCENARIOS 3, 4 and 6), due to widespread illegal practices, which lead to unfair competition from a great portion of regional producers and insecurity related to land tenure (invasions by squatters). On the other

hand, this factor represents an incentive to squatters and land-grabbers (SCENARIO 5), which use illegal methods to obtain lands and implement illegal logging.

Barriers relating to land tenure, ownership, inheritance, and property rights: This barrier hinders any legally compliant alternative land use scenario (SCENARIOS 3, 4 and 6), and represents an incentive to squatters and land-grabbers (SCENARIO 5).

As contextualized above, SCENARIO 5 would not be hindered or prevented by any of the barriers identified in Sub-step 2a. Thus, SCENARIO 5 can be regarded as the most plausible alternative land use scenarios.

In this sense, according to the tool:

"forestation" (or the REDD project activity, in this case) "without being registered as an A/R CDM project activity" is not included in the list of land use scenarios that are not prevented by any barrier"

And the list contains only one land use scenario, therefore it is necessary to continue with Step 4: Common practice test.

STEP 4. Common practice test

According to T-ADD "CDM Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities", the previous steps are complemented with an analysis of the extent to which similar activities have already diffused in the geographical area of the proposed VCS AFOLU project activity. This test is a credibility check to demonstrate additionality that complements the barrier analysis (Step 2). Other registered VCS AFOLU project activities shall not be included in this analysis.

This analysis involved a survey of similar activities in the region of the proposed Project Activity in the same municipality: Apuí, Amazonas.

Utilizing the land-tenure management system of the government INCRA department, only four of comparable size (although all much smaller) were identified in the municipality.

One almost borders the northern property areas to the south-west:

Fazenda Samaúma of approximately 52,000 hectares. It has similar characteristics in that it possesses INCRA certification, and satellite images reveal it to have similar vegetation cover.

Similarly, three properties located in the far southwest corner of Apuí were the next biggest ones in the municipality:

- Fazenda Bela Vista of approximately 27,000 há;
- Fazenda Paraíso, approximately 22,000 ha; and

- Fazenda Felicidade, approximately 27,000 ha;

These too are analysed to have broadly similar characteristics to the project area in that they also possess INCRA certification, and satellite images reveal them to have similar vegetation cover.

However we can site two essential differences: they are of considerably smaller size: the largest (Fazenda Samaúma) being 40% the total project areas size, and the other three ranging from 21% to 17% its size; secondly, given statistics in the region, it is highly unlikely that these properties have no economic activity, as the majority of properties have timber cattle production activities in the municipality.

In this regard, the proposed VCS REDD project activity is not the baseline scenario and, hence,

3.6 Methodology Deviations

Describe and justify any methodology deviations. Include evidence to demonstrate the following:

The deviation will not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.

The deviation relates only to the criteria and procedures for monitoring or measurement, and does not relate to any other part of the methodology.

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

Describe the procedure for quantification of baseline emissions and/or removals in accordance with the applied methodology. Include all relevant equations, and explain and justify all relevant methodological choices (e.g., with respect to selection of emission factors and default values).

4.2 Project Emissions

Describe the procedure for quantification of project emissions and/or removals in accordance with the applied methodology. Include all relevant equations, and explain and justify all relevant methodological choices (e.g., with respect to selection of emission factors and default values).

4.3 Leakage

Describe the procedure for quantification of leakage emissions in accordance with the applied methodology. Include all relevant equations, and explain and justify all relevant methodological choices (e.g., with respect to selection of emission factors and default values).

4.4 Net GHG Emission Reductions and Removals

Describe the procedure for quantification of net GHG emission reductions and removals. Include all relevant equations. For AFOLU projects, include equations for the quantification of net change in carbon stocks.

Provide the ex-ante calculation (estimate) of baseline emissions/removals, project emissions/removals, leakage emissions and net GHG emission reductions and removals in the table below.

For data and parameters monitored, use estimates. Document how each equation is applied, in a manner that enables the reader to reproduce the calculation. Provide example calculations for all key equations, to allow the reader to reproduce the calculation of estimated net GHG emission reductions or removals.

Year	Estimated baseline emissions or removals (tCO_2e)	Estimated project emissions or removals (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated net GHG emission reductions or removals (tCO_2e)
Year A				
Year B				
Year C				
Year…				
Total				

5 MONITORING

5.1 Data and Parameters Available at Validation

Complete the table below for all data and parameters that are determined or available at validation, and remain fixed throughout the project crediting period (copy the table as necessary for each data/parameter). Data and parameters monitored during the operation of the project are included in Section 5.2 (Data and Parameters Monitored) below.

Data / Parameter	
Data unit	*Indicate the unit of measure*
Description	*Provide a brief description of the data/parameter*
Source of data	*Indicate the source(s) of data*
Value applied	*Provide the value applied*
Justification of choice of data or description of measurement methods and procedures applied	*Justify the choice of data source, providing references where applicable. Where values are based on measurement, include a description of the measurement methods and procedures applied (e.g., what standards or protocols have been followed), indicate the responsible person/entity that undertook the measurement, the date of the measurement and the measurement results. More detailed information may be provided in an appendix.*
Purpose of Data	*Indicate one of the following:* • *Determination of baseline scenario (AFOLU projects only)* • *Calculation of baseline emissions* • *Calculation of project emissions* • *Calculation of leakage*
Comments	*Provide any additional comments*

5.2 Data and Parameters Monitored

Complete the table below for all data and parameters that will be monitored during the project crediting period (copy the table as necessary for each data/parameter). Data and parameters determined or available at validation are included in Section 5.1 (Data and Parameters Available at Validation) above.

Data / Parameter	
Data unit	*Indicate the unit of measure*
Description	*Provide a brief description of the data/parameter*
Source of data	*Indicate the source(s) of data*
Description of measurement methods and procedures to be applied	*Specify the measurement methods and procedures, any standards or protocols to be followed, and the person/entity responsible for the measurement. Include any relevant information regarding the accuracy of the measurements (e.g., accuracy associated with meter equipment or laboratory tests).*

Frequency of monitoring/recording	*Specify measurement and recording frequency*
Value applied	*Provide an estimated value for the data/parameter*
Monitoring equipment	*Identify equipment used to monitor the data/parameter including type, accuracy class, and serial number of equipment, as appropriate.*
QA/QC procedures to be applied	*Describe the quality assurance and quality control (QA/QC) procedures to be applied, including the calibration procedures where applicable.*
Purpose of data	*Indicate one of the following:* • *Calculation of baseline emissions* • *Calculation of project emissions* • *Calculation of leakage*
Calculation method	*Where relevant, provide the calculation method, including any equations, used to establish the data/parameter.*
Comments	*Provide any additional comments*

5.3 Monitoring Plan

Describe the process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters set out in Section 5.2 (Data and Parameters Monitored) above. Include details on the following:

The methods for measuring, recording, storing, aggregating, collating and reporting data and parameters. Where relevant, include the procedures for calibrating monitoring equipment.

The organizational structure, responsibilities and competencies of the personnel that will be carrying out monitoring activities.

The policies for oversight and accountability of monitoring activities.

The procedures for internal auditing and QA/QC.

The procedures for handling non-conformances with the validated monitoring plan.

Any sampling approaches used, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures.

Where appropriate, include line diagrams to display the GHG data collection and management system.

APPENDIX

Use appendices for supporting information. Delete this appendix (title and instructions) where no appendix is required.