FOREST CONSERVATION PROJECT
BR ARBO GESTÃO FLORESTAL S.A.

report updated in April/26

Summary:

Chapter 1 - BR ARBO, THE PROPERTY AND THE PROJECT

BR **ARBO Gestão Florestal S.A.** describes, in this document, its Forest Conservation project.

The objective of this project is to permanently conserve the monumental Amazonian native biome of more than **900 thousand hectares** that constitute the BR ARBO property in the state of Amazonas, in order to benefit the environment, preserve the forest in its wide diversity, prevent global warming, maintain water regimes and support the local community, in its different needs.

A win-win project: the planet, Brazil, the Amazon and the local populations.

BR ARBO

BR ARBO GESTÃO FLORESTAL S.A. - CNPJ nº 04.310.918/0001-98
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BR ARBO Gestão Florestal S.A. is a Brazilian company, with long-standing operations in the region, an integral part of its community for many years.

BR Abo is the private and exclusive owner of an extensive piece of land in the state of Amazonas. The property has a high degree of forest preservation in the Amazon biome, which covers almost all of it.

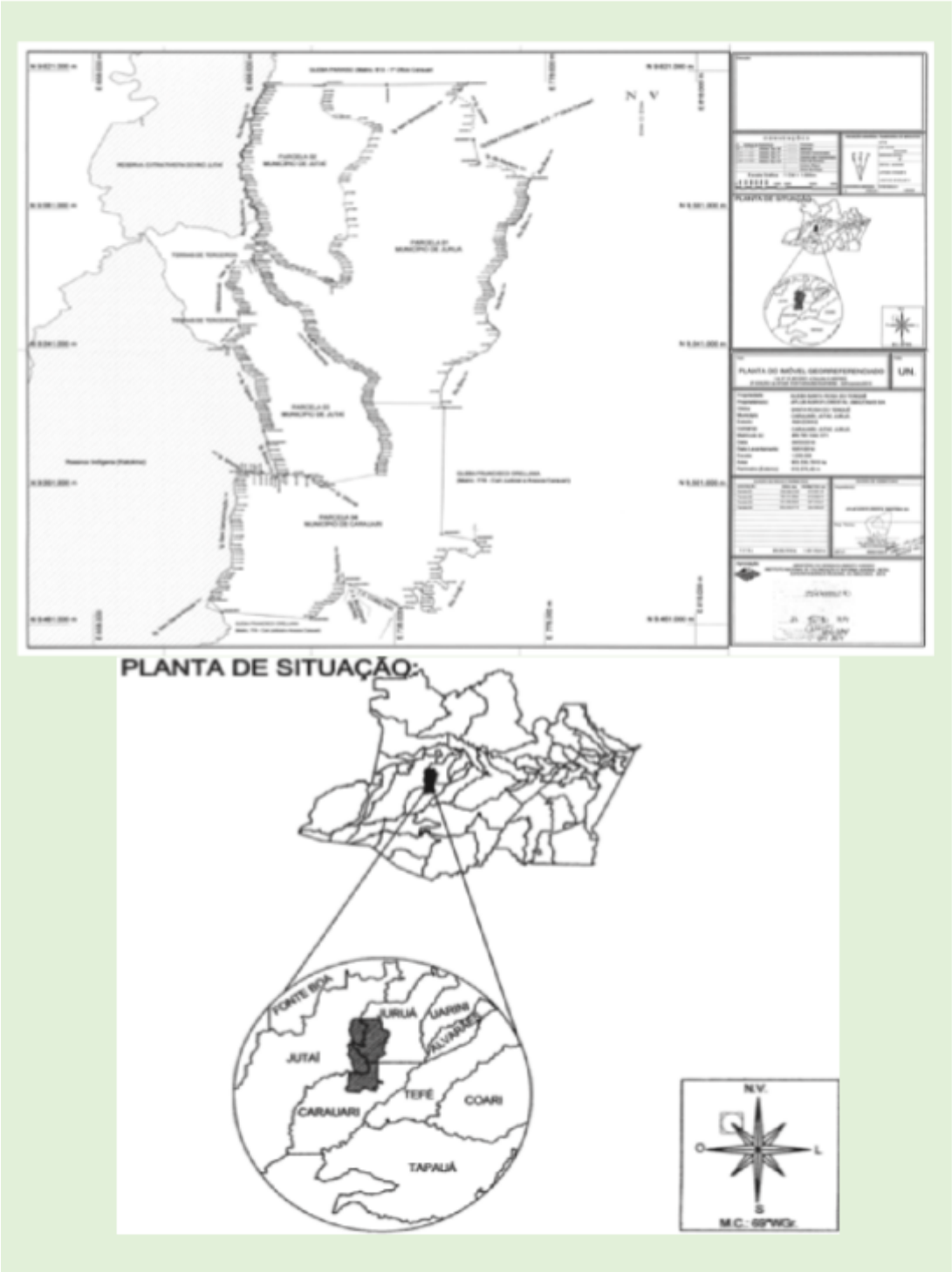
The owner considers that this coverage, maintained intact until now, is an asset of highly relevant, tangible and intangible value, of great social interest not only locally, but also globally, which must be maintained for the future. It intends to continue to preserve it, opposing the deforestation trends that exist in the Amazon region, as is well known.

OWNERSHIP

The area is called Gleba Santa Rosa do Tenquê - known as FAZENDA DA It is located in the municipalities of Carauari, Juruá and Jutaí, in the heart of the central-west region of the state of Amazonas, in the North of Brazil, belonging to the Solimões River basin.

The property is registered by the following registrations in the name of BR ARBO, totaling just over 900,000ha:

- Carauari/AM - Notary 1, Registration 1780, Reg R-1, Book 2-H, 252,459.3715 ha
- Juruá/AM - Notary 1, Registration 371, Reg R-1, Book 2-C, 379,595.2749 ha
- Jutaí/AM - Notary Office 1, Registration 1344, Reg R-1, Book 2-6, 271,476.1446 ha



The succession line of ownership of BRArbo Gestão Florestal S.A. dates back to 1947. The company has therefore managed the property for decades, developing activities in small-scale in the area, and the conservation of the native biome has always been a present objective in its operations, despite the difficulties naturally offered for this purpose.

PROJECT

The project described in this report was initiated by BR ARBO in mid-2022, when the final decision to implement the project was made.

Some of the forest economic activities were carried out over time on the property, without results that would allow their continuity. At the end of 2021, with the change in the shareholder structure and the entry of new shareholders in the company, it started to have access to more relevant financing. On the other hand, the need arose to develop activities that would adequately remunerate the eventual capital employed in the company.

The first and most evident opportunity identified in this new situation was to implement a forest exploitation activity on a larger scale, with gradual suppression of the forest in the legally permissible 20% of the area, the processing of wood for commercialization in the market and the conversion of the area into pastures. Plans to implement this scenario were then detailed.

As of 2022, however, the possibility arose of implementing an alternative scenario, which implies the integral conservation of the forest. This scenario ended up deserving the preference of the shareholders, and which came to be part of the project described in this report.

The project consists of the following activities:

- **sustainable forest management** close to 160 thousand hectares closer to Carauari, in the southern portion of the property, over the next 30 years, in 30 plots of more than 5 thousand hectares, managed one each year, using the best techniques that guarantee the integrity of native forest over time - an activity legally authorized and recognized as beneficial for the conservation of native forest over the years;
- **installation of a new sawmill in Carauari** to process certified wood, harvested in sustainable management, including the installation of a **renewable electricity generation plant** in Carauari, powered by waste wood processed in the sawmill;
- **monitoring and surveillance system** in the entire area, in order to ensure that the pressure of deforestation that may exist is avoided, also counting on the engagement of local communities with this objective.

Through the above activities, the Enterprise will obtain, over the years, a certain amount of Carbon Credits, with whose revenue it will enable the sustainability of its own activities and other positive impacts to be produced.

The foundations of this effort lie in climate issues, including greenhouse gas emissions, in the broad water issue, including the rainfall regimes of agricultural areas in other regions, in the local water issue, in the protection of biodiversity and in the social issues involving local populations. Several of these points go beyond local or regional interests and go to the national and even global level.

CHAPTER 2 - SUSTAINABLE FOREST MANAGEMENT

FOREST MANAGEMENT

The project provides for the implementation of the Sustainable Forest Management activity with Reduced Impact Forest Exploitation (EIR).

It is recognized as a sustainable practice, through the selective cutting and management of native timber species of commercial interest, in a limited way in volume. The practice, in addition to keeping the forest standing and its functions and services to the environment, presents itself as a viable practice to conserve the biodiversity of flora and fauna. The process of cutting mature trees and the "packing" of carbon through the production of sawn timber where a large number of timber species can last much longer than half a century without deteriorating (*hardwood*) enables the managed area to open up the forest canopy, increasing the rate of carbon sequestration. acting as a true global carbon filter, where its cycling is increased until the second forest harvest and so on.

The forests found on the property are mostly classified as Dense Ombrophilous Forest, mainly non-floodable forests known as Dryland - *Dense Ombrophilous Forest of the Lowlands subformation*, representing more than 95% of the property and the rest are Floodplain Forests - *Dense Ombrophilous Forest of the Alluvial Subformation* (less than 5% of the property).

The project covers a total area of Sustainable Forest Management totaling more than 160,000 ha, equivalent to approximately 18% of the total area of the property. In general, the operational practices of Forest Management exploitation differ from the practices of forest exploitation for vegetation suppression because it is necessary to take greater care of the remaining forest, where the main differences consist of:

- Rigorous planning and selection of forest species and individuals that will be exploited and retained standing for seed holders, regeneration and compose the harvest stock in the second rotation cycle;
- Careful planning of forest exploitation infrastructures;
    - Application of techniques of targeted cutting of trees and prior cutting of vines, in order to better conserve the remaining trees that will make up the second harvest cycle;
    - Planning for the establishment of trails for dragging the logs obtained, seeking the least impact on the remaining trees and the natural regeneration of new trees and seeking the least possible movement of forestry equipment;
    - Implementation of a chain of custody control process for harvested trees and logs produced;
    - Management through specific software for the activity and use of geoprocessing tools;
- Implementation of a monitoring plan to monitor forest growth, maintenance of permanent infrastructures (main roads) and mainly, actions for monitoring and protection of the forest, especially to curb invasions.

Specifically, the main characteristics that outline Sustainable Forest Management are presented, namely:

Forest management system called polycyclic, with a cutting cycle initially stipulated in 30 years in accordance with Resolution 17/2013 of SDS/CEMAAM and Resolution 406/09 of CONAMA, which establishes a maximum value of Average Annual Increment - IMA of 0.86 m³/ha/year (CONAMA) and a (01) m³/ha/year (SEMA-AM); with maximum permitted exploration volume of 25 m³ per hectare (Resolution 17/2013 – SDS/CEMAAM) is 30 m³ per hectare (Resolution 406/09 CONAMA);

- Carried out through selective cutting of commercial species;
    - Minimum cutting diameter for all species of 50 centimeters at breast height (DBH 1.30 meters from the ground);
- Forest inventory from 40 centimeters of DBH;
    - Forest exploitation system characterized as Reduced Impact Exploitation (EIR), adapted from the CELOS Exploitation System (SCE) and with some adaptations from the systems disseminated by IMAZON and FFT (Tropical Forest Foundation);
    - Silvicultural System that advocates the conduction of natural regeneration with adaptations of the CELOS Silviculture System (SCS), supported by regional experiences of the system recommended by EMBRAPA/CPATU (SILVA et al. 1995) and by the Department of Tropical Silviculture of INPA (HIGUCHI et al., 1991).
    - The maximum average volume for UPF is 24.99 m³/hectare. Considering the maximum increment values of resolution 406/09, there is a cut/rotation cycle of approximately 30 years.

CHRONOLOGY

Chronology of the activities that make up the silvicultural system and forest management:

E - 1 years	Delimitation and subdivision of the compartment	• delimitation of the Forest Production Unit (UPF) and the Work Units (UT's) based on the property boundaries • Opening of the baseline for the central lanes (indent) • opening of central (parallel) trails of the strips (every 50 meters) to the limits of the property and marking the extension of the trail (50 x 50m)
		• identification of the UPF

E - 1 years	100% inventory for exploration planning	• measurement of trees of all species, with DBH equal to or greater than 40 cm, stem quality and spatial location (obtaining geographic and Cartesian coordinates), • identification of trees, numbering and plating of trees and annotation of other attributes of the environment to assist in microzoning
E - 1 years	silvicultural treatment (cutting lianas)	• cutting vines on trees of commercial species with a high degree of infestation to reduce damage from exploitation and improve the safety of the tree cutting operation
E - 4 months	exploration planning	• selection of trees for felling • road network planning • preparation of exploration maps with the location of the trees selected for felling and other exploration and transport infrastructures
E - 1 month	opening forest roads, branches and yards	• opening of forest access roads to upf (main road) • of the branches (roads secondary and temporary) • yards along the roads and branches
E*	low-impact forestry	• pre-selection of trees to be felled according to criteria by species • exploration map for location of trees in the field • test to verify that the tree is hollow • fall targeting to reduce damage and facilitate drag • daily exploration map update for drag trail planning • main drag (to the nearest yard on the branches) • transport of logs

E + 3 months	assessment of the damage caused	• processing of information from exploration and control maps • trail area measurement • systematic assessment of the percentage of canopy opening • no later than three months after the completion of the forest exploitation of the lot

E + 4 E + 9 E + 14 years	silvicultural treatments (optional)	• release of trees of interest: implying girdling and poisoning of trees of non-commercial species that are competing with trees of the future (DBH>=35 cm) • prescription of new treatments based on the analysis of data from permanent plots (and diagnostic inventory if possible available at 8 and 13 years after forest harvesting) following the same guidelines as the first • decision for the execution or not of the activity, supported by data from permanent installments
E + 2 E + 4 E + 6 E + 9 E + 13 E + 18 (years)	maintenance of the infrastructure of culverts, bridges or bridges	• check the condition of the eventual construction of a culvert, pontoon or bridge to avoid the damming of water within the Forest Management Area (AMF) and the property • if there is impoundment with continuous retention of water (for more than three months), unclog the watercourse • even eliminate infrastructure (as a last resort)
E+29 (years)	100% inventory for planning the exploration of the second cutting cycle	• measurement of trees of all species, with DBH equal to or above 40cm, stem quality and spatial location (obtaining geographic and Cartesian coordinates) • identification of trees, numbering and plating of trees and annotation of other attributes of the environment to assist in microzoning
Yearly	forest protection	• to go through the limits of the property, of the forest management area in order to curb invasions • If agricultural crops or pastoral projects are implemented in the bordering areas, verify the need to maintain "firebreak" areas, to prevent the entry of fire into the forest.

*E: Forest Exploitation (period and/or year of forest exploitation).

The projected times for the corresponding period of a rotation cycle, lasting thirty years, are indicated in the table below, allowing us to observe the annual area of forest exploitation under a sustainable management regime and the volumes of forest supplies produced from wood logs for sawdust and industrialization, annually and in total.

project activity	period	annual area (hectares)	log volume (m3/ha/yr)	log volume (m3/yr)	total area (hectares)	total volume (m3)
Forest Managnt. on Dry Land	years 1 to 26	5.457,10	20	109.142	141.884,60	2.837.692
Forest Managnt. in Floodplain	years 27 to 30	5.457,10	10	54.571	21.828	219.160
Total					163.713	3.056.852

The table below shows the order of the main activities that involve from the 100% forest inventory stage to the effective conclusion of the exploitation stage that takes place with forest transport.

The correlation of these activities with the prevailing climatic conditions in relation to the monthly rainfall is also illustrated in the following table.

	Year 1					Year 2											Limit
Activities	ago	set	out	Nov	dez	Already	fev	mar	abr	mai	jun	jul	ago	set	out	Nov	dez	
Forest Inventory 100% and Projects																		5
Forestry low-impact																		7
Directional cutting of trees																		5
demarcation of trails & infrastructure																		5
opening of the trails & infrastructure																		5
Log drag																		5
Transport of logs																		6
	drought					rain						trans*		drought				

* dry/rain transition

It can be observed that:

i. The first effective activity in the field is the forest inventory, which should preferably be carried out in the period of lower rainfall. Whenever possible, the subsequent inventory is carried out concomitantly with the previous year's forest exploitation;

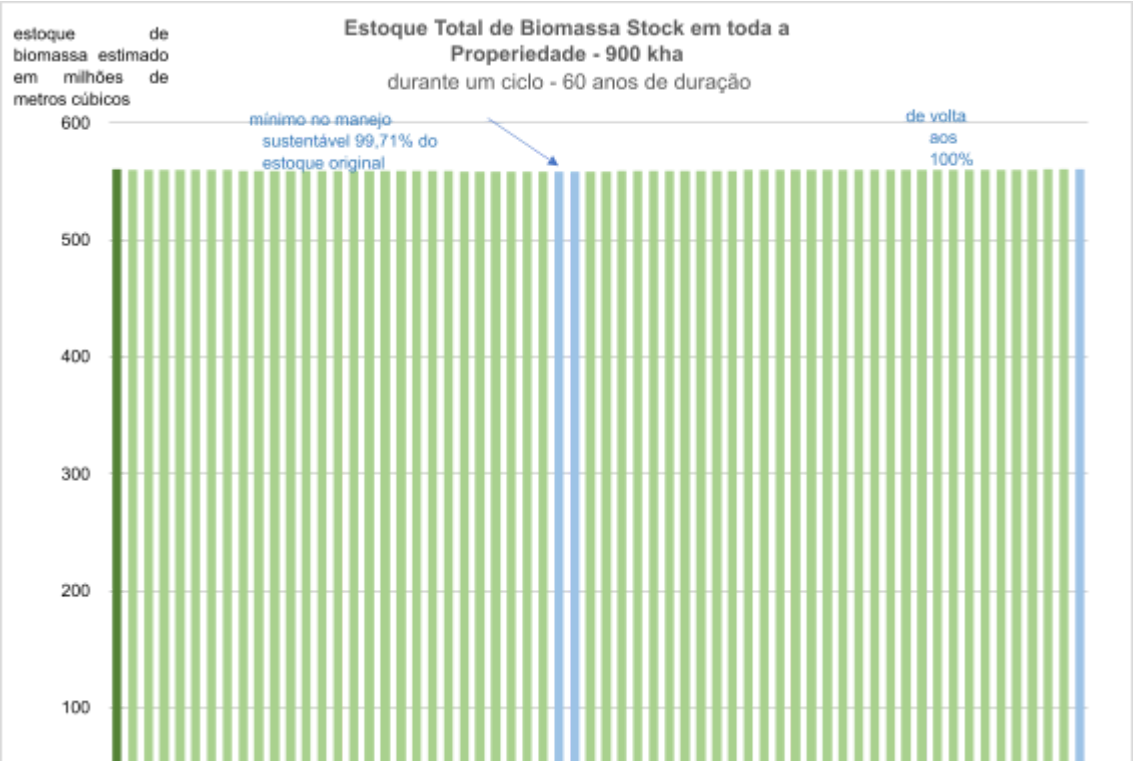
ii. The activities that involve the handling of machinery and trucks are obviously concentrated in the dry season, starting in the last month of transition from the rainy season to the dry season (July) until the beginning of the transition period, in this case restricted to transport and mechanized deforestation activities (December).

iii. The activity of cutting trees can start earlier, even in June, at the beginning of the transition period from the rainy season to the dry season. This is because the main activity does not involve the use and movement of heavy machinery.

iv. In turn, the opening of the exploration infrastructure is concentrated in the period of lower rainfall, since the excess of water in the soil would make it impossible to build most of the infrastructures.

IMPACT

The overall impact of Sustainable Forest Management activity on biomass stock, as described above, can be estimated as follows:



The total biomass of the property is gradually reduced in a minimal proportion as each plot is managed. The reduction is barely noticeable in the graph. Soon after management, each batch begins its recovery process, returning to the original

volume of biomass in the next 30 years.

The total volume of biomass of the property reaches a maximum reduction of close to 0.3% in year 30.

DIMENTIONING

The planning of the number of equipment and teams needed for the main activities of Sustainable Forest Management, including the stages of forest inventory, reduced impact forest exploitation (EIR: directional cutting of trees, demarcation of trails, dragging and organization of logs in yards) and transport are presented below.

Project activities	Team / Equipment	Quantitative	Unit	operating yield	Unit	Duration (months)	Quantity Minimum	Complement
forestry inventory at 100%	inventory teams	5.457	ha	390	ha/month/team	5	4	Teams of 6
directional tree cutting	cutting teams	109,142	m3	2.400	m3/team/month	5	10	Teams of 2
dragging trails	track teams	5.457	ha	220	ha/team/month	5	5	Teams of 2
log drag	tractor skidders	109.142	m3	4.500	m^3 / equipment / month	5	5	units
operating infrastructure	d-6 track-type tractors	5.457	ha	1	1 treadmill for each 3 Skidders	5	2	units
log loading	loader shovels	109.142	m3	9.000	m^3 / equipment / month	5	3	units
transport of logs	semi-trailer trucks	109.142	m3	4.800	m^3 / set / month	6	4	units

Comments:

i. The numbers of equipment and of teams required are presented in an optimized way to minimally meet the demand over the estimated time period for each stage. It is important to emphasize the need to work with an additional of at least 10% of equipment per activity, as a contingency.

ii. A forest inventory carried out with excellence combined with a microzoning of the entire area of the Forest Production Unit (UPF - 5,457 hectares) that will be harvested that year is essential for all the success of

subsequent operations. A team composed of six people including botanical identifier, annotator and forestry assistants is capable of covering an average area of at least 350 hectares per month. The activities are directed at the end of the "dry season" and transition to the season of higher rainfall. The team will also carry out the prior cutting of vines. Thus, a total of four teams for a period of up to five months are sufficient for the operation.

iii. The directional cutting operation of the selected trees provides an average yield per cutting team by projecting the cutting of 30 to 35 trees in the day, usually composed of a chainsaw operator and a helper, predicting a total average minimum cutting volume of 2,400 m3 of logs/month/team. Although reduced impact exploration techniques (EIR – directional tree cutting) are applied in this operation, the training of the teams ensures that the same performance as traditional operations is maintained.

iv. The planning of the exploration infrastructure using geoprocessing tools and the demarcation of the drag trails in the field provide the optimization of the log dragging operation and use of reduced impact exploration precepts, providing the optimization of drag distances, reduction of the movement of machines and avoids unnecessary damage to the remaining trees of the second harvest. A team composed of two people, using the cutting and forest exploitation maps, allows the demarcation of at least an area of 220 hectares per team per month.

v. The activity of dragging the logs was dimensioned for the use of CAT 525 forestry tractors, equipped with hydraulic clamps, dispensing with the use of steel cables and forestry assistants in the operation, providing for a minimum monthly average production of 4,500 m3 of logs dragged per month, which allows projecting the execution of the work even less than the five months projected, using only five skidders.

vi. In operations that involve handling the logs, accommodating them in piles and loading them, each machine is capable of moving about 400m3 of logs, calculated for the project a minimum monthly average of 9,000m3 per wheel loader equipped with a forestry fork, which implies the minimum need for three loaders equipped with a forestry "fork" to move the logs.

vii. Log transport: it is estimated that for the first few years, until reaching about 45 thousand hectares of forest exploitation area, the average distance for transporting logs will be slightly less than 25 km. In this way, each set of semi-trailer trucks can provide about 3 trips a day. For calculation purposes, a transport amount of 4,800 m3 of logs/month was considered, leading to the need for a minimum of four sets of semi-trailer trucks, during an operating period of up to six months per year.

viii. Its own support team is designed to meet the activities of forest exploitation with reduced impact, namely:

a. A traced tank truck (4X4 or 6X4) with the capacity to transport

   12,000 liters of fuel, to transport fuel from the farm's headquarters to the work front, for distribution to supply and maintenance trains and also for direct supply of equipment;

b. A convoy truck for the supply and lubrication of the machines (called "melosa");

c. A mobile workshop, mounted on a 4X4 truck chassis, to be used for small repairs and corrective maintenance, containing compressor, generator set, welding machine, grinder, hydraulic press, keys and tools, for quick field services.

d. Three (03) 4X4 pick-up vehicles, for supervision, support and support of forest exploration activities with reduced impact.

CHAPTER 3 - INDUSTRIAL INSTALLATION

The forest product from the Sustainable Forest Management with Reduced Impact Forest Exploitation activity, according to the project, will be processed in a sawmill to be installed in the area, in a place close to the urban concentration of Carauari, and close to the existing river pier on site, with adequate draft, which will allow the flow of the respective wood products.

A thermoelectric plant will be part of the complex, including for the distribution of the surplus generated.

SAWMILL

The sawmill will consist of a certain number of lines, each of which is formed by the following operations and equipment associated with them:

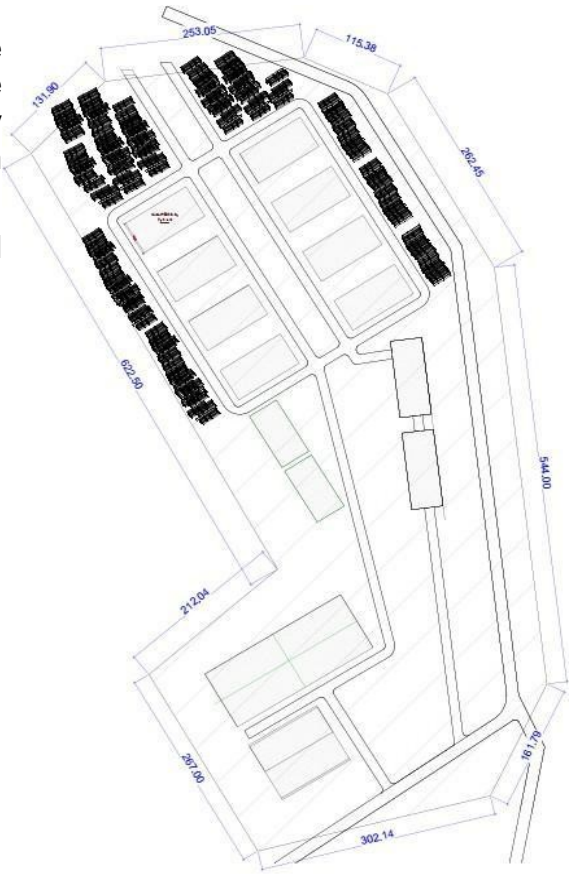
i. Log yard, to feed the sawmill, with adequate sizing to ensure the continuity of operation of the sawmill despite the seasonality of the log harvest, described in Chapter 2;

ii. Shed for Equipment e Industrial operation itself

iii. Unfolding into band saws (tandem) with handwheels of adequate diameters and saws with adequate thickness, this being the main operation of unfolding the logs to the desired dimensions depending on the mix of planned products;

iv. Coupled Carrier Cart at tandem saws;

v. Equipment higher value-added processes, such as, for Panel production: circular saw moulding, press High frequency, gluing machine, flat sander and cutting line among others;



ÁREA: 412.346,00m²

vi. Shed for separation, classification of the By-products and storage of sawn and dry wood;

vii. Boiler and drying ovens ;

viii. Yard of products and drying;

ix. Miscellaneous transport and stacking equipment. The preliminary layout of the industrial area is presented above.

x. The equipment is organized into lines, and each line can operate in one or more shifts, which will define its production capacity.

The number of lines planned is:

- 5 folding lines
- 1 line for decking
- 1 line for floors
- 3 lines for panels

The logs are initially classified according to their respective species according to information from the field, in the process of sustainable management. They are then cubed, that is, subjected to a set of measurements that allow their precise shape and volume to be verified. Based on this information, the planning of the splitting and subsequent processing is established in each case, according to the defined product mix, maximizing the yield of each log in the operation.

After cubing and unfolding planning, the logs of each species and diameter class are first processed in tandem band saws, where ribs and boards are removed in successive operations, until the block is obtained. The block is then graded depending on its quality.

The splitting step is the process of reducing the whole logs, through longitudinal cutting, into smaller pieces. These are planks, boards or pieces of rectangular or square section (beams, joists, rafters, battens or slats).

The sawing method is one of the variables of special importance in the yield of sawn wood. When using techniques to reduce the dimensions of the logs for subsequent unfolding in other pieces, variations in yield may occur depending on the equipment used.

The parts generated in the band saws go to the trimming machines where they are again classified according to their quality. Those that have knots, cracks or brittle heartwood have their width standardized in the trimmer and are classified as of inferior quality.
The pieces with the desired quality are trimmed in widths defined according to the desired products, and go to the top for standardization of length and shipping, or for subsequent processing for the production of panels and floors.
The planned final products will of course all be made of certified tropical hardwood, comprising:

- Blocks
- Planks
- rafters
- Beams
- Slats
- Panels
- Floors
- Other manufactured goods of wood

The products are sorted and stored, being cubed in individual product volumes and log products of each diameter class, for shipment.

The outbound logistics of the products will always be by river, from the existing port next to the industrial facility, with adequate draft, to international ports located in the Amazon basin, from which they will be exported.

The sawmill waste will be sent for use as fuel in the thermoelectric plant to be installed in the same complex, as indicated in the following topic.

SIZING

The expected average annual processing volumes are:

	total gross volume directed to processing (m3 / year)	Total net volume of processed product (m3 / year)	Waste directed to energy generation (m3 /year)
sawn	26.739,79	26.739,79	
Panels and others Products	42.019,67	23.110,78	18.908,89
Unfolding (intermed. product)	109.142,00	76.399,40	32.724,60
Processing	7,639,79	4.965,95	2.673,99

THERMOELECTRIC POWER PLANT

A thermoelectric plant will be part of the industrial complex to be installed by the project, supplied exclusively with wood waste produced in the sawmill. The energy generated will thus be of renewable origin.

The thermoelectric plant will be dimensioned in order to supply all the demand of the sawmill, and generate a surplus that can be sold in the city of Carauari, replacing the current energy that is originated by the burning of diesel oil, since the location of the city does not allow its connection to the National Interconnected Energy System, being, therefore, an *off-grid situation*.

This is another contribution to the reduction of global greenhouse gas emissions, in addition to the other environmental benefits of the project.

The main data on renewable energy to be generated based on waste are:

Power Generation	
Generating power of the plant	3.59 MW
Energy absorbed by the sawmill	25,863.68 MWh / year
Surplus energy available for sale	7,460.10 MWh / year

CHAPTER 4 - ENVIRONMENTAL IMPACT

TERRITORY AND PROJECT

The objective of the project is the forest conservation of the property, implementing sustainable forest management and executing forest protection to avoid the opening of new areas throughout the property.

BR ARBO's property is located in the largest biome in Brazil, the Amazon, one of the most diverse on the planet. The biome occupies 49% of the country's territory and has great biodiversity and environmental benefits.

The overall benefits are, in short:

- the contribution to the mitigation of climate change through avoided emissions of Greenhouse Gases,
- the maintenance of the native vegetation cover of this important biome, a remarkable value *per se*,
- the conservation of the wide biodiversity that lives in it,
- the conservation of the complex water system and rainfall regimes that operate not only in the region, but far beyond it,
- support for local communities who make their living from the standing forest.

According to Gatti (GATTI et al, 2020), the complex relationships between water flows, climate, and ecosystem carbon are exhibited by the Amazon, where evapotranspiration is responsible for 35% of total rainfall.
The aerial water flows that operate in the region receive the enormous contribution of the evapotranspiration of the Amazon forest, which move in different directions, giving rise to extremely important rainfall regimes in regions such as the Midwest, Southeast, and parts of the South and Northeast of Brazil.

But, still according to GATTI, "In the last 40-50 years, human impact has increasingly affected the Amazon, causing a loss of forests of about 17%, of which 14% converted mainly to agricultural land (89% pastures and 10% crops)."

According to the Köppen classification, the climate of the region is equatorial "Am", with average rainfall of 1400 mm, average annual temperature > 18 ºC throughout the year, super-humid climate and no droughts. The landscape of the region ranges from flat to slightly mountainous formations, with a maximum altitude of 220 m (IBGE).

Soils are mainly classified as Plintosols, Gleisols and Ultisols (IBGE). The geomorphological location is the Amazon plain and part of the Solimões River depression. The dominant vegetation is the Dense Ombrophilous Forest (Db) and the Open Ombrophilous Forest (DA) (INPE).

Given the importance of the project region, the local benefits are the maintenance of the native vegetation cover of the biome and support for local communities.

The plant potential for this region is approximately 4,268 tree species, 102 amphibians, 170 mammals, 505 birds (RESTOR).

The nearest urban occupation is the city of Carauari-AM, to the south of the property. There are also indigenous lands and relevant conservation units in the

surroundings, which will benefit from the protection of the forest.

The maintenance of the integrity of the Amazon forest biome on the property through its conservation, thus counteracting the different vectors and trends of deforestation operating today, constitute the most relevant environmental impact of this project.

ENVIRONMENTAL IMPACTS OF THE PROJECT

The environmental impact of the project boils down, in general terms, to the preservation of the existing forest mass on the property. It is an impact of enormous relevance.

The first component of this impact is that of avoided CO2 emissions, the more detailed description of which is given in Chapter 6. The so-called "carbon emissions" are today the main negative environmental vector operating on our planet and need to be mitigated quickly and significantly to contain the effects of climate change that are already manifesting themselves around the globe. By avoiding emissions from deforestation, the project brings its positive contribution to the entire global society.

In addition, we have the issue of biodiversity. According to the World Wildlife Fund (WWF), the Amazon, to date, has an average scientific classification of at least "40,000 species of plants, 427 mammals, 1,294 birds,
378 reptiles, 427 amphibians and about 3,000 fish in the region". In addition, it is known that between 96,660 and 128,840 species of invertebrates have been described in the Brazilian part of the Amazon alone. In addition, "More than a third of the planet's species live and reproduce in the Amazon. It is a tropical giant of 4.1 million km2.

The project also has a positive impact on the surrounding communities, thanks to the conservation of this native vegetation cover, favoring the maintenance of the ecosystem services provided by this area.

No less important, there is also the relevant impact that refers to the maintenance of water systems, whether local or broader, including the regulation of hydrological and rainfall regimes of very relevant agricultural regions in the South American continent.

However, despite this richness, the local ecosystem is fragile. The forest lives on its own organic matter, in a humid environment with abundant rainfall. The slightest recklessness can cause irreversible damage to your delicate balance (WWF).

The deforestation rates observed in the Amazon region are relevant, an object of concern for the entire society, local, regional and global, with widely publicized.

The Sustainable Forest Management with Reduced Impact Forest Exploitation (EIR) to be used in the project guarantees the conservation of the Forest with all its social and environmental values, and which will have the certification of the **FSC** – Forest Stewardship Council in due course.

CHAPTER 5 - SOCIAL IMPACT

HISTORY

In 1910, the legal term was created with the name of xibauá. A year later, through state law No. 683, a part of its territory is dismembered from the municipality of Tefé, creating a new municipality that has the village of Xauá as its headquarters.

It was elevated to the status of village in 1912, with state law No. 1006 and its headquarters was transferred to Carauari. Then, the municipality is renamed Carauari. In 1928, the District of Carauari was created and, in 1938, ten years later, state law No. 311 gave Carauari the status of city.

The name of the municipality originated from the lake "Carauari" that is close to the seat of the municipality and is connected by a canal to the Juruá River. The Juruá River, which was originally inhabited by the Canamaris, Catuquinas and other Indians.

RECENT HISTORY

In the period from 1977 to 1988, Carauari was subjected to the impacts of a significant internal and external migration, resulting from the gas and oil prospecting activities carried out by Petrobras, when there was the discovery of some natural gas deposits, but with sub-commercial characteristics.

In 1977, the total population of the municipality was 20,162 inhabitants, of which 5,536 in the urban area (27.5%) and 14,626 in the rural area (72.5%). With the beginning, that year, of the company's activities, the prospect of a better salary gain was created. The caboclo from the rural area abandoned his swidden and left in search of a job with a formal contract and the respective labor rights.

Eleven years later, when the company's activities in the city were deactivated in February 1988, the socioeconomic scenario presented indicators:

- Total population of 28,719 inhabitants, with 13,508 in the urban area (70.0
  %) and 5,789 in rural areas (30.0%);
- depopulation of the rural area with the consequent abandonment of traditional extractive activities, both in the native rubber plantations and in other activities of the primary sector;
- disorderly growth of the urban and suburban areas of the municipal headquarters, with the consequent increase in the deficits of infrastructure, services and urban equipment;
- deactivation of numerous commercial and service establishments;
- worrying unemployment rates and destabilization and fragility of hundreds of families;

Despite the urban chaos created most of the workers came from the area rural to the municipal headquarters, which carried out activities in extractivism, fishing and agriculture, did not accept to return to these activities, starting to demand from the Municipal Government solutions to its problems, such as housing, work and other basic needs.

CURRENT SITUATION

- Location: Juruá Region, on the left bank of the Juruá River, 780.0 km in a straight line from Manaus and 1,676.0 km by river.
- Access: inland waterways and airways
- Life expectancy at birth: 61.25 years
- Rural communities: 43
- Communications: AM Station (Yes); FM Station (Yes); TV Generator (Yes); Internet Provider (Yes); Cell Phone (Yes).
- Voters: 13,939 (2006)

Some social indicators provided by the IBGE - Brazilian Institute of Geography and Statistics are:

CARAUARI	
Gentile	Carauariense
Territorial Area	25,778.658 km² [2021]
Estimated population	28,719 people [2021]
Population density	1.00 inhabitants/km² [2010]
Schooling 6 to 14 years old	90,2 % [2010]
MHDI Municipal Human Development Index	0,549 [2010]
Realized revenues	R$ 61,010.46 (×1000) [2017]
Committed expenses	R$ 52,252.86 (×1000) [2017]
GDP per capita	12,591.08 R$ [2020]

The comparative analysis of some socially relevant indices indicates that the municipality, due to a set of reasons, starting with its regional and isolated location, presents a very deficient situation.

In the table below we indicate in yellow the situations below 50% in the positioning of Carauari in relation to the ranking in the

Carauari - Relevant Social Indicators	Value	position in the ranking among 5,570 municipalities Brazilians
GDP per capita [2020]	12,591.08 R$	3,906th
Percentage of revenues from sources external [2015]	94.1 %	1,124th
Municipal Human Development Index (MHDI) [2010]	0,549	5.209th
Average monthly salary of formal workers [2020]	1.9 minimum wages	2,558th
Employed Personnel [2020]	1,516 people	
Employed population [2020]	5.3 %	5.139th
Enrolment rate from 6 to 14 years of age [2010]	90,2%	5,462nd
IDEB – Early years of elementary school (Public network) [2021]	4,7	4,177th
IDEB – Final years of elementary school (Public network) [2021]	4,2	4.001st
Elementary school enrollment [2021]	5.848	
High School Enrollment [2021]	1.577	
Teachers in elementary school [2021]	296	
Teachers in high school [2021]	80	
Number of educational establishments Fundamental [2021]	57	
Number of educational establishments medium [2021]	5	
Infant Mortality [2020] deaths per thousand live births	11,97	2,326th
Hospitalizations for diarrhea [2016] per thousand inhabitants	0,7	2,889th
SUS Health Establishments [2009]	6	
Urbanized area [2019]	5.37 km2	
Adequate sanitation [2010]	23,9%	
Afforestation of public roads [2010]	2,8%	
Population exposed to risk [2010]	477 people	

It is concluded that the project brings important opportunities to positively influence some of the above indicators, with relevant impacts for the local population, as well as for the Amazon region as a whole.

NEW DIRECT JOBS

In industrial activity:

Activity	Positions	Positions per shift (approx)
Organization of the yard and food of Production Lines	loader operators	2
Sawmills (2 production lines)	Production Manager	1
	Line operators	30
	of Custody Controller	1
Palletizing	Operators	2
Warehouses	Operators	1
Sharpening rooms	Operators	4
Panels	Production Manager	1
	Line operators	28
	Operators	2
Floors	Production Manager	1
	Line operators	12
	Operators	2
Decking	Production Manager	1
	Line operators	15
	Operators	2
Maintenance of the lines	mechanics	3
	Electricians	2
	Construction Assistants	2
Thermoelectric	Central Supervisor	1
	Operators	3
	Operators	3
	Mobile operators	1
Headquarters in Carauari	responsible	1
	Administrative Assistants	5
	Logistic Assistants	3
	Auxiliaries	6
Licensing Office	Forestry Engineer	1
	forestry technicians	3
Forestry	Forestry Engineers	5
	forestry technicians	5
Deposits	Responsible for deposits	2
	Operators	10
Transportation from depot to port	Truck Operators	3
Ferry loading	Operators	3
Total	Permanent workstations per shift	167
	Total permanent jobs	340

In the field activity:

Project Activities	Team / Equipment	Duration (months)	Minimum Quantity	Team job positions	Total job positions
Forest Inventory at 100%	Inventory Teams	5	4	6	24
Directional Cutting of the Trees	Cutting teams	5	10	2	20
Dragging Trails	Track teams	5	5	2	10
Log Drag	Tractor Skidders	5	5	1	5
Exploration infrastructure	D-6 Track-Type Tractors	5	2	1	2
Accommodation and loading of logs	Paddles Loaders	5	3	1	3
Transport of logs	Trucks Semi-Trailer	6	4	1	4
Logistics and general support for field activities		6	8	1	8
Supervision, administration and general management			20	1	20
Total	Total jobs in 5 months of the year (approx.)				96

The composition of the teams has, at the top of the qualification, the presence of forest engineers, going to technical level operators of different specialties, operators of specific equipment, and field assistants.

The teams will operate during the indicated months, due to the climatic conditions of the region, during a cycle of at least 30 years, which tends to repeat and perpetuate itself

OTHER BENEFITS

In addition to the creation of direct jobs, the project will naturally bring socioeconomic benefits linked to its activity, such as:

- general increase in the level of local economic activity through the development of additional offers of goods and services of various kinds, which will develop spontaneously around the project , either in its implementation or in its permanent operation;
- increase in the level of tax generation, increasing the capacity for public investments of various kinds.

The total investments to be made in the industrial facilities and in the field work amount to more than USD 50 million, concentrated in the first years of the undertaking.

The project, however, will go further: it intends to directly address priority points of social deficiency in the region, which are being identified through surveys with different communities and relevant related parties.

In this sense, a stakeholder engagement process is underway, with the following activities, all of which are currently underway:

- interviews in riverside communities,
- interviews in the communities living in localities within the area,
- interviews in the communities located in the urban area of Carauari,
- interactions with local governments,
- interactions with regional governments (AM and related bodies),
- interactions with the Federal Government through agencies relevant to the project,
- interactions with local non-governmental organizations,
- interactions with non-local non-governmental organizations, but with relevant performance and interest in the region,
- interactions with universities and research institutions with relevant interests in the region.

Based on the result of all these interactions and the best applicable practices, a Social Project is being developed, focusing on the local community. The project will prioritize some actions to receive support, whether financial, technical and operational, in order to contribute significantly to the socioeconomic development of its area of influence.

Support will preferably be materialized through joint actions and partnerships to be established with relevant entities. The additional benefits under consideration at this time extend to the following areas:

- health care for the urban and extra-urban population,
- improving the sanitary conditions of the general population,
- improvement of physical infrastructure and services, in several aspects, including:
    - energy,
    - telecommunications and internet,
    - basic sanitation,
    - housing,
    - transport at the local level and access to places relevant to the local population, including access to goods and services,
- quantitative and qualitative increase in the supply of education, at various levels,

- support for the enhancement and development of relevant local cultural aspects,
- qualification of the population in practices and techniques, traditional or not, capable of generating income based on the natural resources existing in the place and in the region, such as in the field of extractivism, and others,
- other items, in the process of identification.

This report has, among others, the function of informing the parties listed above about its composition and main characteristics, so that they can respond with their observations and points of view, which will be used as guidelines for its development over time.

CHAPTER 6 - GREENHOUSE GASES AND CARBON CREDITS

CARBON CREDITS

An activity with a high positive impact in terms of Greenhouse Gas emissions, as is the case of this project, receives recognition and the corresponding international certification through the issuance of Carbon Credits.

Carbon Credits are flexibility instruments for meeting goals or objectives for reducing global greenhouse gas emissions. This instrument was created within the United Nations - UN, on the occasion of the edition of the Kyoto Protocol, in 1997. Since then, all the world's effort to reduce greenhouse gas emissions has included this fundamental tool, whose market has been developing consistently.

The Voluntary Carbon Markets, where the project is located, are led by the private sector through voluntary emission reduction and offset targets, such as corporate *net zero targets*.

In 2021, voluntary carbon markets moved more than USD 1 billion. With the growth of the goals assumed by large companies to offset their carbon footprint, the expectation is that they will mobilize a reduction of 2 $GtCO_2e$ and investments of USD 30 billion by 2030.

The Carbon Credits generated in the voluntary market are defined as VCUs (Verified Carbon Units), each unit corresponding to $1tCO_2e$, one ton and dioxide of carbon equivalent.

In Brazil, there are still no regulatory frameworks in operation, except for the RenovaBio system, specific for renewable fuels in the country. This fact brings the focus of the present project to the field of voluntary systems.

REDD+ CREDITS

REDD+ Credits mean Reduction of Emissions from Deforestation and Forest Degradation, added (+) to the conservation of forest carbon stocks, sustainable forest management and increase of forest carbon stocks.

REDD+ is an official mechanism recognized by the UN as an important instrument to achieve global GHG emission reduction targets.

In Brazil, REDD+ is especially relevant due to the country's emissions profile, which is largely associated with deforestation and changes in land use.

The connection of corporate emission reduction goals with REDD+ initiatives can generate a package of economic incentives that originate robust and transparent Carbon Credits, composing a portfolio of mitigation options for the fulfillment of corporate net zero goals by companies and entities around the world.

In addition, good REDD+ initiatives allow for the generation of a series of social and environmental co-benefits, such as biodiversity preservation and investments. After more than a decade of development, REDD+ projects now have rigorous systems of analysis and technical certification, socio-environmental safeguards and systems for recording the credits generated.

Good REDD+ projects enable innovation in local activities aimed at forest conservation, allow for the generation of a package of social benefits (income, employment), economic benefits (promotion of local production chains, such as agroforestry systems, sustainable forest management, family farming, among others), in addition to conserving biodiversity and hydrological cycles.

Primary forests store an "irrecoverable carbon", because once emitted it will not be possible to recapture and store it in reasonable timeframes. In this context, the Brazilian Amazon forest, being the largest tropical forest in the world, is one of the main carbon reservoirs on the planet, acting not only in the balance of the climate, but in the protection of 10% of global biodiversity and immense cultural and social diversity.

In this way, a REDD project for avoided deforestation, above and beyond the levels required by the Forest Code and the Conduct Adjustment Terms already signed, will allow the company to play a vital role in maintaining and conserving the ecosystem services provided by this biome. In this sense, the activation of the mechanisms provided for by the United Nations Framework Convention on Climate Change (UNFCCC) and its market-based instruments for generating revenue from the carbon market is part of an innovative strategy.

In this way, the proposal for a carbon project for the entire area is real and capable of quantifying the benefits generated, responding to the principles recommended by the Climate Convention (UNFCCC) and its subsequent agreements,

especially the Paris Agreement to which Brazil is a signatory and has positioned itself with commitments to reduce deforestation.

BR ARBO SA is aligned with Brazil's commitments and, to this end, proposes a transparent metric to quantify the benefits, respecting national and territorial laws, the legality of operations and demonstrating that it operates above and beyond the limits established by law and, therefore, is considered eligible to seek to participate in the market mechanisms available to rural entrepreneurs in Brazil.

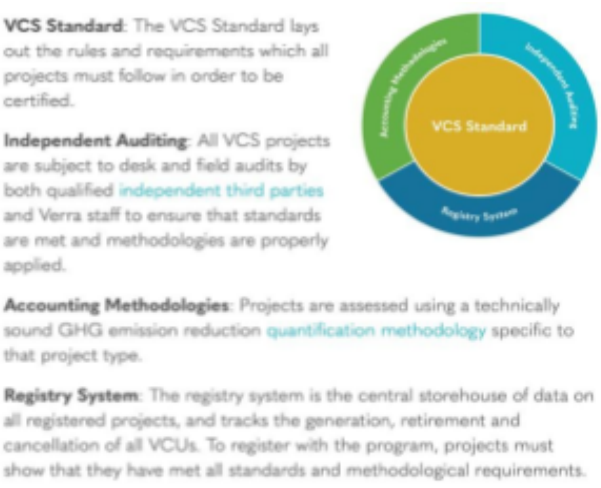
PROJECT

A REDD+ Carbon Credit project is under development, as described above.

The project is being developed with the technical participation of ATA Consultoria em Sustentabilidade Ltda., a Brazilian company specializing in the subject.

A project like this, for a large area, has a high degree of complexity, being composed of a series of activities, some stages of approval by third parties, and some strategic decisions to be made, taking into account the desired speed, the risks involved, and the amount of Credits to be obtained.

The VCS/VERRA **platform will be used**, currently the most recognized in the international market of voluntary Carbon Credits. Carbon credits can be issued through the Verified Carbon Standard project - project ID 4485, for the avoided greenhouse gas emissions associated with the project.



The VCS platform implies the use of the corresponding standard, as well as the applicable methodologies, in addition to a series of specific tools and rules.

Once the project is registered, the monitoring of its performance is followed by the issuance of Carbon Credits (Verified Carbon Units) in annual cycles, it will be operated on the same platform, as well as the *clearing of* the sales of the Credits in the market.

The Carbon Credits to be generated by this project are based on the fact that deforestation or forest degradation will be avoided.

Under the VCS, the following basic documents will apply:

- VCS Program Guide,
- VCS Standard,
- VM0007 REDD+ Methodology Framework (REDD+MF),
- Other VCS tools, technical rules and support procedures .

In addition, the project will follow the standard:

- CCB Standards - Certification to the Climate, Community & Biodiversity /

VERRA, which demonstrates that a project simultaneously addresses climate change, supports local communities and smallholders, and conserves biodiversity.

The project's crediting periods correspond to its total duration, which in this case can vary from a minimum of 20 years to a maximum of 100 years, depending on the proponent's option. We are proposing the adoption of 20 to 30 years, in this case.

The above definitions, from VCS / VERRA, tend to be reviewed periodically, and may modify these parameters.

The estimated potential gross volume of VCUs to be generated by the project's activities is approximately 70,000 tCO2e distributed over 30 years, an average of over 2,000 tCO2e per year.

We anticipate that the registration of the BR ARBO REDD+ project in the VCS should take place in 2026.

In due course, the necessary precautions will be taken to communicate to the other participants in the value chain, when they are duly identified, that this project is in progress, in order to avoid any double request for Carbon Credits.

A methodology for issuing deforestation alerts based on satellite images will be used. When events occur, a specialized technical team is called to verify them, based on photointerpretation analysis.
To implement the best monitoring strategy, it is necessary to assess regional weather conditions and the presence of clouds. Clouds interfere with satellite imagery acquisition and therefore can limit the ability to monitor a specific area. To enable monitoring during periods of high cloud cover that occur in the region, two strategies will be employed.

- The first corresponds to the use of images from several satellites (using optical sensors), namely SENTINEL 2A and 2B (European Union), CBERS-4 of INPE/CRESDA (Brazil/China) and Landsat 8-9 (USGS/NASA). This increases the number of images analyzed and, consequently, the possibility of filming the property on clear days.
- The second strategy is to use radar data from the SENTINEL 1 satellite. This equipment is less affected by clouds and, therefore, can obtain information, even in rainy periods. Although it has a lower spatial resolution (detecting only major disturbances), by combining it with data from optical sensors, it is possible to maximize the monitoring potential.

Frequency: alerts will be issued every 30 days, minimum area monitored - 1 hectare.

In addition, communities located in suitable points will be engaged in a process of safeguarding the forest, to be created in conjunction with the Social Project mentioned on page 25 above.

CHAPTER 7 - CERTIFICATIONS

The project will be subject to at least three relevant international certifications:

- **VCS -** Verra: The Verified Carbon Standard (VCS) Program is the most widely used greenhouse gas (GHG) credit program in the world. It directs funding to activities that reduce and remove emissions, improve the means of Subsistence and protect the nature.

  The VCS projects have reduced or removed more than a billion tons of carbon and other GHG emissions from the atmosphere. The VCS Program is a critical and evolving component in the ongoing effort to secure our shared environment.

- **CCB** - VERRA: The Climate, Community and Biodiversity Standards (CCB Standards) assess land management projects from the early stages of development through implementation. The CCB Standards were developed by CCBA and have been managed by Verra since November 2014.

  The CCB Standards promote the integration of the best practices and approaches with multiple benefits in project design and implementation.

- **FSC** - Forest Stewardship Council® is a non-governmental, non-profit organization, created in 1994 to promote responsible forest management around the world. through a pioneering and unique certification system, which equally incorporates the perspectives of social, environmental and economic groups. And it is present in more than eighty countries.