INVENTORY OF GREENHOUSE GASES EMISSIONS

TANAC S.A.

Base Year - 2020

1. THE COMPANY

Name: TANAC S.A Tannin Unit
CNPJ (NATIONAL REGISTER OF LEGAL ENTITIES): 091.359.711/0001-02
Address: Street Torbjorn Weibull, 199. Montenegro/RS- Brazil. CEP: 92524-000

Name: TANAC S.A Chips and Pellets Unit
CNPJ (NATIONAL REGISTER OF LEGAL ENTITIES): 091.359.711/0047-95
Address: Street Romar Demetrio Vanzin, 5001. Rio Grande/RS – Brasil. CEP: 96200-970

Name: TANAGRO S.A Forestry Unit
CNPJ (NATIONAL REGISTER OF LEGAL ENTITIES): 89.387.864/0001-11
Address: Street Torbjorn Weibull, 199. Montenegro/RS- Brazil. CEP: 92524-000

Company website: http://www.tanac.com.br
Person in charge of publishing the inventory: Djones Roesler
Email contact: droesler@tanac.combr

1.1. Presentation

For over 70 years, TANAC has believed in the balance between the use and conservation of natural resources.

TANAC was established in 1948 in the municipality of Montenegro in the state of Rio Grande do Sul, its production is addressed to the leather industry, the treatment of supply water and industrial effluents, animal feeding, and other uses in the chemical industry.

In order to diversify its activities, in 1995 it started producing wood chips, in the city of Rio Grande, in the southern Brazil, aimed at the pulp sector and in 2016 starts to produce wood pellets for the renewable energy market.

The assurance of supply for the Tannins Unit, Wood Chips and Pellets Unit starts at the Forest Management Unit. With responsible forest management, TANAGRO has approximately 25 thousand hectares of plantations. Over the years, has fostered partnerships and incentives for forest plantations initiatives. The use of advanced technologies in the nursery, genetic improvement research and agreements with universities and forestry entities allowed to follow up on the evolution of the sector, generating a significant increase in productivity and quality in the forests, providing raw materials from renewable sources, giving the leadership to TANAC in the production of plant extractives and black wattle (Acacia decurrens) chips and pellets.

Through the Inventory of Greenhouse Gases (GHG), the Company acknowledged the scope of anthropogenic emissions, thus, enabling the planning of actions to reduce GHG emissions. The analysis of the results supports. the establishment of strategies turning into programs to emissions reductions and voluntary compensation in order to deem impacts in the global climate. For TANAC, its inventory

regards as a tool for planning in the way to ensure the company's efficiency in the economics, energetics, and operational matters.

1.2. Objective of the Report

This report aims to quantify the emissions of greenhouse gases – GHG carbon storage and removals by the supply chain of TANAC SA during the based year 2020.

1.3. Reporting period and frequency

Data gathering will be carried out annually (within the period from January 1st to December 31st). Data must be kept for a minimum period of 5 (five) years and the frequency of the reports will be at least biannual or according to the demand from Company's administration board.

2. INVENTORY DATA

Technical staff responsible for the preparation of the inventory:

TANAC S.A.

Technical Team – Inventory Data
Djones Roesler - droesler@tanac.com.br
Taiana França - tfranca@tanac.com.br
Rodrigo Thomas - rthomas@tanac.com.br
Jones Roberto Klein - jrklein@tanac.com.br

RBG Conhecimento (RBG Knowledge Area)

Technical Team
Flavio Murillo Machado Guiera - flavio@rbgconhecimento.com.br
Mariangela Gerum - mariangela@rbgconhecimento.com.br

2.1. Inventory Base Year

The base year is used as a way of comparing years of GHG emission inventories. Tanac has already carried out the emissions inventory in 2008, 2014 and 2016. For the present inventory, the base year is the current inventory (2020), as it is the first inventory with the Pellets plant included.

The year considered for this inventory is 2020 and the period calculated is from January 1st to December 31st.

2.2. Verification

- The inventory was verified by a third party: Yes
- Verification Body: Bureau Veritas Certification
- Person in charge of the verification: Antonio Daraya

2.3. Inventory Type

Complete

3. ORGANIZATIONAL BOUNDARIES

3.1. Organization's Units

TANAC's units comprised by this inventory are:

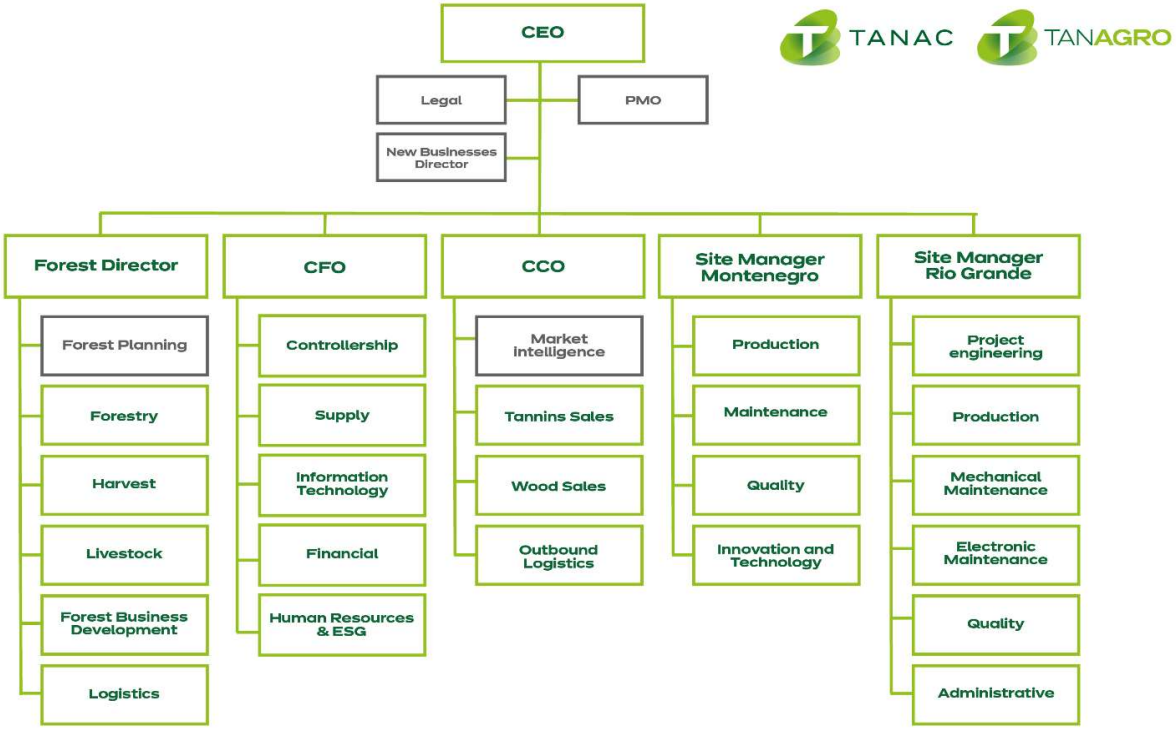
Table 1: Organizational Units

Units
Tanac – Tannins Unit – Montenegro – RS
Tanac Chip and Pellets Unit – Rio Grande – RS
Tanagro – Forest Management Unit - RS Regional offices, farms and nursery

3.2. Consolidation Approach

The emissions report was prepared under the Operational Control approach, which means that the organization reports the accounts for all GHG emissions and/or removals from facilities over which it has financial and operational control.

3.3. Organizational Chart



4. OPERATIONAL BOUNDARIES

4.1. Scope 1

Direct GHG emissions which come from sources that are owned or controlled by the company:

- Mobile combustion
- Stationary combustion
- Solid waste and effluents
- Industrial processes
- Fugitive
- Agricultural / Silvicultural activities

P.S.: Neutral sources are considered emissions from the combustion of biomass or renewable fuels from plant biomass. The CO2 released in the combustion of biomass is equal to the CO2 removed from the atmosphere during the photosynthesis process, thus, it is taken into consideration the natural carbon cycle, that is, neutral emissions. According to the GHG Protocol, with the exception of CH4 and N2O emissions arising from the combustion of biomass, and which must be accounted for, the CO2 emission from this combustion must be excluded from Scope 1 and presented separately in the GHG inventory as neutral emissions.

4.2. Scope 2 (Location-based method)

Indirect GHG emissions from purchased electricity. Scope 2 accounts for GHG emissions from purchased electricity and consumed by the company. Acquired electricity is defined as that which is purchased or otherwise brought within the company's organizational boundaries. In this scope, emissions occur physically at the location where electricity is generated, for example, by the power distribution companies supplying the National Interconnected System.

— Electric power acquisition/purchase

4.3. Scope 3

Other indirect GHG emissions, a result of the company's activities, but which occur in sources that do not belong or are not controlled by the company. The activities in this scope are those carried out by third-party companies, transportation, business travel, waste treatment and supplier emissions.

— Transportation and distribution (upstream)
— Waste generated in operations
— Business travel

5. EMISSIONS (OPERATIONAL CONTROL)

5.1. Summary of Total Emissions

GHG	Tonnes of gases				Metric Tons of CO_2 equivalent (tCO_2e)			
	Scope 1	Scope 2 – Location Based	Scope 2 – Market-based	Scope 3	Scope 1	Scope 2 – Location Based	Scope 2 – Market-based"	Scope 3
CO_2	12,395.216	2,700.498	-	26,309.899	12,395.216	2,700.498	-	26,309.899
CH_4	198.789	-	-	51.260	4,969.725	-	-	1,281.500
N2O	11.593	-	-	5.142	3,454.714	-	-	1,532.316
HFC	-			-	-			-
PFC	0.004			-	34.419			-
SF_6	-			-	-			-
NF_3	-			-	-			-
Total					**20,854.074**	**2,700.498**		**29,123.715**

5.2. Emissions – Scope 1 – by category

Sources	Emissions (tCO_2e)	Emissions from Biogenic CO_2 (ton)	Removals from Biogenic CO_2 (ton)
Mobile combustion	12,474.433	1,514.381	-
Stationary combustion	4,243.756	215,975.577	-
Industrial Processes	-	-	-
Solid Waste and Efluents	-	-	-
Fugitive Emissions	34.543	-	-
Agriculture/Silviculture Activities	3,841.589	-	(29,989.492)
Land Use Changes	259.753	-	(175,981.966)
Total Emission Scope 1	**20,854.074**	**217,489.958**	**(205,971.458)**

5.3. Emissions – Scope 2 – by category

Location-Based	Emissions (tCO_2e)	Emissions from Biogenic CO_2 (ton)	Removals from Biogenic CO_2 (ton)
Electricity Acquisition/ Purchase	2,700.498	-	-
Heat/steam power Acquisition/ Purchase	-	-	-
Transmission and distribution losses	-	-	-
Total Emission - Scope 2	**2,700.498**	**-**	**-**

5.4. Emissions – Scope 3 – by category

Category	Emissions (tCO_2e)	Emissions from Biogenic CO_2 (ton)	Removals from Biogenic CO_2 (ton)
1. Purchased goods and services	15,984.705	81,676.628	(111,865.508)
2. Capital goods	-	-	-
3. Fuel-and energy-related activities (not included in scope 1 or scope 2)	-	-	-
4. Upstream transportation and distribution	10,807.146	1,267.430	-
5. Waste generated in operations	617.350	-	-
6. Business travel	27.244	-	-
7. Employee commuting	-	-	-
8. Upstream leased assets	-	-	-
9. Downstream transportation and distribution	1,687.270	197.871	-
10. Processing of sold products	-	-	-
11. Use of sold products	-	-	-
12. End-of-life treatment of sold products	-	-	-
13. Downstream leased assets	-	-	-
14. Franchises	-	-	-
15. Investments	-	-	-
Emissions in Scope 3 non classified by categories 1 to 15	-	-	-
Total emission - Scope 3	**29,123.715**	**83,141.929**	**(111,865.508)**

5.5. Other Greenhouse Gases not covered by the Kyoto Protocol

N/A

5.6. Emissions by Facility

Not reported

5.7. Emissions Abroad

N/A

6. INTERSECTORIAL METHODS AND/OR TOOLS

Was any method and/or intersectoral tool used in addition to those provided by the Brazilian GHG Protocol Program?

No.

6.1. Methods and/or tools for specific sectors

Was any method and/or tool used for specific sectors?

No.

6.2. Emission Factors

Was an emission factor used other than those suggested by the Brazilian GHG Protocol Program?

No.

7. OTHER ELEMENTS

7.1. Information on the organization's performance, compared to internal (other units) or external (same sector organizations) benchmarks

Not reported

7.2. Description of GHG emission indicators for the organization's activities. For example, tCO2 and/manufactured products.

Not reported

7.3. Description of strategies and projects for managing GHG emissions

Not reported

7.4. Information on contracts with customers and suppliers that include clauses related to the preparation of GHG inventories and/or the submission of related information

Not reported

7.5. Information on uncertainties, exclusions of data sources and other characteristics regarding the preparation of the inventory

Not reported

7.6. Description of internal actions to improve the quality of the inventory. For example, systematizing data collection, hiring external verification services, etc.

Data collection is systematized, with responsible persons identified and verified by a third party.

7.7. Information on the purchase of electricity obtained from renewable sources

Not reported.

7.8. Information on the organization's carbon stock, in tons, as of December 31st of the year inventoried.

Quantity of carbon biomass (tons)	Type of Stock	Additional Information
1,074,256.59	Below and Above-Ground Carbon Biomass	*Acacia mearnsii* commercial forests plantations. Accounted with the use of PBGHG Protocol's calculation tool for forests. (GHG Protocol - Florestas - v1.9.2)

8. OFFSETS AND REDUCTIONS

8.1. Emission Offsets

Not reported

8.2. Emission reductions

Not reported

9. COMPARATIVE SUMMARY BETWEEN EMISSIONS AND CO2e SEQUESTRATION

The table below presents the results and comparison of CO2e emissions and sequestration of TANAC S.A. in 2020.

Category / Business Unit	Emissions (tCO2e)	Emissions from Biogenic CO_2 (ton)	Removals from Biogenic CO_2 (ton)
Total Scope 1	20,854.074	217,489.958	(205,671.458)
Total Scope 2 (location)	2,700.498		
Total Scope 3	29,123.715	83,141.929	(111,865.508)
TOTALS	**52,678.287**	**300,631.887**	**(317,836.966)**
GREENHOUSE GAS BALANCE	**-6.03**		

It can be concluded that in 2020, for every 01 tCO2e emitted, the company sequestered 6.03 tCO2e in its planted forests.