



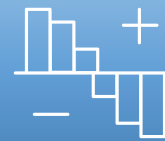
Greenhouse Gas Emissions Inventory 2025



Institutional



Methodology



Results



Future Actions

Madem

Madem is a Brazilian company recognized as the world's largest supplier of wooden reels. Founded in Garibaldi, Rio Grande do Sul, the company has over 75 years of history and is among the fifteen largest forestry groups in Brazil, establishing itself as a global reference in the manufacture of wooden reels for the electric cable industry.

With six production units across Brazil, Spain, Bahrain, the United States, and Colombia, the Madem Group Madem serves more than 250 clients in 45 countries, continuously expanding its international presence. The company combines tradition, innovation, and sustainability, using 100% renewable and controlled-origin raw materials in its production processes.

Committed to high standards of quality and environmental management, Madem holds international certifications such as ISO 9001 and ISO 14001. Its reels are made from ecological and biodegradable wood, being durable, reusable, and designed to combine performance, longevity, and environmental responsibility at every stage of production.



Our Numbers

6

Production units

100%

of timber used is renewable

+ 1,000

employees

75

Years of history

Units in

5

countries

Exports to more than

45

countries

Methodology Used

The inventory is prepared based on the concepts, principles, and guidelines established by the GHG Protocol using its specifications for accounting, quantification, and reporting of Corporate Greenhouse Gas Emissions Inventories.

Equations provided by the Intergovernmental Panel on Climate Change (IPCC) are also used for calculating emissions from certain sources and sinks (CO₂ removals by green areas).

The report structure follows the specifications of ISO 14.064:2007 – “Greenhouse Gas Management System” – International Organization for Standardization, 2007.

Emissions Calculation

For Brazilian business units, emission factors published by the Brazilian GHG Protocol Program (PBGHGP) through its calculation tool “ferramenta_ghg_protocol_v2026.0.1” were used. For the other business units, the emission factors specified in the following sources were used: “Emission Factors for Greenhouse Gas Inventories” (EPA, 2026), “UK Government GHG Conversion Factor for Company Reporting” (DEFRA, 2025), “Factores de emisión del SIN” (UPME, 2025), Factores de emisión (Gobierno de España, 2025), Climate Transparency (2024) e Carbon Footprint (2024).

The global warming potential used for calculations is that published by the IPCC Fifth Assessment Report: Climate Change 2013 (AR5).

Ecofinance Negócios is responsible for calculating GHG emissions and preparing this report. Madem is responsible for the activity data provided for the emissions calculation.

Inventory Period

This inventory covers emissions from activities carried out by Madem in 2025, encompassing all direct emissions (Scope 1), emissions from electricity purchases (Scope 2) and part of the indirect emissions (Scope 3), including all operations over which the group holds operational control.

Inventory Base Year

The base year for Madem's GHG emissions inventory is 2022, corresponding to the preparation of the group's first GHG emissions inventory that included Scope 3 emissions.

Organizational Boundaries

The emissions inventory of Madem follows the operational control accounting approach provided by the GHG Protocol.

Under the operational control approach, 100% of emissions from operations over which the Group maintains control are accounted for, regardless of its equity share in the source.



Operational Boundaries

Madem accounts for all its Scope 1 (direct) emissions, Scope 2 emissions, and part of its Scope 3 emissions.

Under Scope 1, the following sources are considered:

- Stationary Combustion: Stationary combustion for the generation of electricity, steam, heat, or energy using equipment at a fixed location;
- Mobile combustion: Mobile combustion for transportation using company-owned or controlled vehicles;
- Fugitive Emissions: Unintentional releases of substances such as Hydrofluorocarbons (HFCs), particularly during the use of refrigeration equipment and CO₂ fire extinguishers;
- Wastewater: From septic tanks present at business units;
- Agricultural activities: timber harvesting in pine plantation areas.

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Operational Boundaries

Under Scope 2, emissions associated with purchased electricity are accounted for.

Under Scope 3, the following sources are considered:

- Transportation of raw materials: Mobile sources operated by third parties for transporting inputs;
- Transportation of products: Mobile sources used by third parties for transporting products;
- Wastewater: Emissions from the treatment of liquid effluents outside the organization's boundaries;
- Waste: Waste disposed of in landfills, incinerated, or composted, at locations not controlled by the company;
- Air Travel: Air travel carried out by the company's employees.

Operational Boundaries

The inventory also accounts for:

- Carbon stock: Amount of carbon not available in the atmosphere, held for example in above- and below-ground biomass, in dead organic matter, and organic matter incorporated into the soil in areas controlled by the company.
- Biogenic Emissions: CO₂ emissions generated from the combustion of biomass (such as ethanol, biodiesel, wood waste) and from the harvesting of planted forests, resulting in changes to carbon stock. These emissions are accounted for separately as they are part of the natural carbon cycle. Thus, the CO₂ released through combustion, decomposition, or processing of biomass corresponds, in principle, to the carbon previously removed from the atmosphere during biomass growth.
- Biogenic Removals: Absorption or sequestration of CO₂ from the atmosphere, with subsequent storage of that carbon in biomass or soil (e.g. reforestation).

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Corporate



Operations



Emissions by Source (tCO₂e)

The Madem group was responsible for 25.681,53 tCO₂e in GHG emissions in 2025.

Scope 1 totaled 2.105,90 tCO₂e, accounting for 8,20% of the total emissions. Within this scope, **mobile combustion** was responsible for 1.496,22 tCO₂e, of which 895,52 tCO₂e (59,85%) originated from **Liquefied Petroleum Gas (LPG)** consumption in operational vehicles, 526,01 tCO₂e (35,16%) from the use of **diesel** in yard machinery and operational vehicles, e 74,69 tCO₂e (4,99%) from gasoline burned in operational vehicles. **Stationary combustion** contributed with 514,96 tCO₂e, mainly from CH₄ e N₂O from **burning of wood chips** in boilers, which accounted for 495,65 tCO₂e.

Indirect emissions associated with electricity purchases, classified under **Scope 2**, totaled 3.167,80 tCO₂e, accounting for 12,33% of the company's total emissions.

Scope 3 was the most significant category, representing 79,47% of the total. Within this scope, the emissions from upstream transportation of raw materials carried out by third parties, totaling 10.178,50 tCO₂e, and downstream transportation of products, totaling 10.073,40 tCO₂e, are relevant. Waste (0.35%), air travel (0.16%), and Wastewater (0.09%) account for smaller emission volumes within this scope.

Emission Sources	Total Emissions	
	tCO ₂ e	%
Scope 1	2.105,90	8,20%
Mobile Combustion	1.496,22	5,83%
Stationary Combustion	514,96	2,01%
Fugitive Emissions	76,39	0,30%
Wastewater	18,33	0,07%
Scope 2	3.167,80	12,33%
Electricity Purchases	3.167,80	12,33%
Scope 3	20.407,83	79,47%
Transportation of Raw Materials	10.178,50	39,63%
Transportation of products	10.073,40	39,22%
Waste	90,80	0,35%
Air Travel	41,07	0,16%
Wastewater	24,06	0,09%
Total	25.681,53	100%

Emissions by unit (tCO₂e)

Units	Total Emissions (tCO2e)											Total	%
	Scope 1				Scope 2	Scope 3							
	Stationary Combustion	Mobile Combustion	Fugitive Emissions	Wastewater	Electricity Purchases	Transportation of products	Transportation of Raw Materials	Waste	Air Travel	Wastewater			
Rio Negro	513,05	510,62	0,57	15,91	780,16	4.283,67	2.344,20	5,81	0,99	-	8.454,99	32,9%	
Madem Gulf	-	150,61	0,11	-	1.344,99	3.073,31	3.249,37	-	16,17	3,71	7.838,27	30,5%	
Madem MooreCraft Reels EUA - Denton	-	409,16	2,76	-	428,95	510,63	1.930,88	-	-	7,14	3.289,51	12,8%	
Madem MooreCraft Reels EUA - Tarboro	-	118,18	2,73	-	338,11	1.490,45	1.088,21	-	1,35	6,59	3.045,61	11,9%	
EuroMadem Spain	-	77,03	70,20	-	268,54	578,85	1.565,84	84,41	3,89	4,51	2.653,28	10,3%	
Sorocaba	-	30,07	-	-	1,11	128,39	-	0,42	-	1,47	161,46	0,6%	
Florestal Mostardas	0,60	113,35	-	1,26	0,55	-	-	-	-	-	115,76	0,5%	
Barcarena	-	39,69	-	-	0,75	8,11	-	0,11	-	0,45	49,10	0,2%	
Garibaldi	-	6,40	-	0,67	2,61	-	-	-	15,40	-	25,07	0,1%	
Rio Negro - Florestal	1,31	22,53	-	0,49	0,61	-	-	0,05	-	-	25,00	0,1%	
Madem Carretes de Colombia	-	18,58	0,02	-	1,41	-	-	-	3,27	0,21	23,48	0,1%	
Total	513,65	1.455,11	76,37	17,83	3.165,78	10.073,40	10.178,50	90,75	37,80	23,86	25.681,53	100,0%	
%	2,00%	5,67%	0,30%	0,07%	12,33%	39,22%	39,63%	0,35%	0,15%	0,09%	100%		

Emissions by unit (tCO₂e)

At 2025, **Madem Rio Negro - Industry** had the highest volume of GHG emissions, **8.454,99 tCO₂e**, accounting for **32,9%** from the total emissions of the group. The main emission source at this unit was Transportation of products under Scope 3, which accounted for **4.283,67 tCO₂e**. In Scope 1, emissions from **stationary combustion**, totaled **513,05 tCO₂e**.

The second largest contribution came from **Madem Gulf**, with **7.838,27 tCO₂e**, representing **30,5%** from total emissions, Transportation of Raw Material was the main source of emissions at this unit, totaling **3.249,37 tCO₂e**.

Madem MooreCraft Reels EUA – Denton unit was the third most representative, recording **3.289,51 tCO₂e**. At this unit, transportation of raw materials stood out as the largest emission source, accounting for **1,930.88 tCO₂e**.

Biogenic Emissions (tCO₂e)

Units	Biogenic Emissions (tCO2e)							
	Scope 1			Scope 3			Total	%
	Agricultural Activities	Stationary Combustion	Mobile Combustion	Transportation of Raw Materials	Transportation of products	Waste		
Florestal Mostardas	144.648,91	0,11	17,10	-	-	-	144.666,12	65,01%
Rio Negro - Florestal	48.030,51	0,12	3,34	-	-	0,20	48.034,17	21,58%
Rio Negro	-	29.173,84	35,29	347,28	237,67	21,97	29.816,04	13,40%
Sorocaba	-	-	1,15	-	19,02	1,58	21,76	0,01%
Barcarena	-	-	0,61	-	1,20	0,40	2,21	0,00%
Garibaldi	-	-	1,63	-	-	-	1,63	0,00%
Madem MooreCraft Reels EUA - Denton	-	-	-	-	-	-	-	0,00%
Madem MooreCraft Reels EUA - Tarboro	-	-	-	-	-	-	-	0,00%
Madem Gulf	-	-	-	-	-	-	-	0,00%
Madem Carretes de Mexico	-	-	-	-	-	-	-	0,00%
Madem Carretes de Colombia	-	-	-	-	-	-	-	0,00%
EuroMadem Spain	-	-	-	-	-	-	-	0,00%
Total	192.679,42	29.174,07	59,11	347,28	257,89	24,15	222.541,91	100%
%	86,58%	13,11%	0,03%	0,16%	0,12%	0,01%	100%	

Biogenic Emissions (tCO₂e)

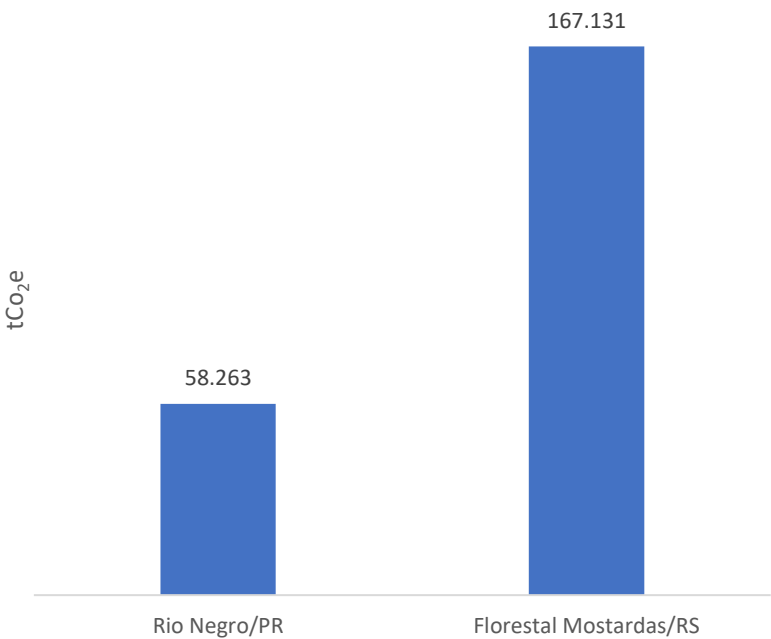
In 2025, biogenic emissions from the Madem Group totaled **222,541.91 tCO₂e**, mainly concentrated in agricultural activities and stationary combustion. The Florestal Mostardas unit accounted for the largest share of these emissions, totaling **144,666.12 tCO₂e (65.01% of the total)**.

Agricultural activities resulting from the harvesting of Pinus spp. in planted forests were the main source of biogenic emissions, accounting for **192,679.42 tCO₂e**. Of this amount, **144,648.91 tCO₂e** originated from the Florestal Mostardas unit, while **48,030.51 tCO₂e** came from the Rio Negro unit.

Stationary combustion represented the second largest source of biogenic emissions, totaling **29,174.07 tCO₂e**, almost entirely associated with the combustion of wood chips in boilers at the Rio Negro unit - Industry.

Carbon Removal (tCO₂e)

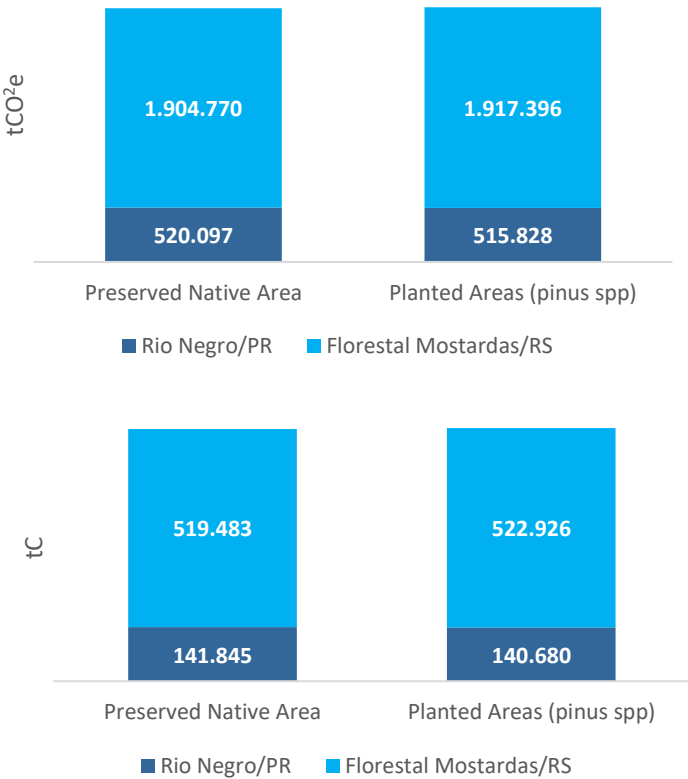
At 2025, the growth of Pinus spp. forests planted by Madem contributed to the **removal of 225,394.40 tCO₂** from the atmosphere. The **Florestal Mostardas** unit accounted for **74.2%** of this total, while the **Rio Negro** unit accounted for the remaining **25.8%**.



Carbon Stock (em tC e tCO₂e)

Madem has a total stock of 1,324,933 tonnes of carbon (C) in conserved native forest areas (49.9%) and planted areas (50.1%), equivalent to 4,858,091 tCO₂e.

The Florestal Mostardas unit concentrates 78.7% of this stock, covering 3,138.30 hectares of conserved Atlantic Forest and 4,553.56 hectares of planted areas. The Rio Negro unit accounts for 21.3%, with 1,016.08 hectares of conserved Atlantic Forest and 1,292.07 hectares of planted areas.



Emissions by GHG

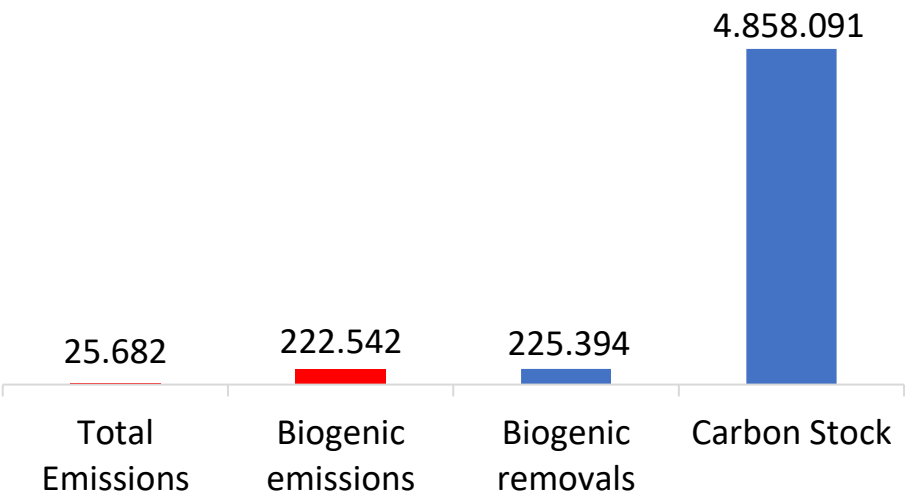
As recommended by the GHG Protocol methodology, the table below presents emissions in metric tonnes of each GHG, by emission source.

Emission Source	Emissions by GHG (metric tonnes)			
	CO ₂ (t)	CH ₄ (t)	N ₂ O (t)	HFCs (t)
Scope 1	1.479,06	8,91	1,14	0,06
Mobile Combustion	1.458,78	0,43	0,10	0,00
Stationary Combustion	19,29	7,83	1,04	0,00
Fugitive Emissions	0,99	0,00	0,00	0,06
Scope 1 Wastewater	0,00	0,65	0,00	0,00
Scope 2	3.167,80	0,00	0,00	0,00
Electricity Purchases	3.167,80	0,00	0,00	0,00
Scope 3	20.135,46	1,30	0,89	0,00
Transportation of Raw Materials	10.056,13	0,24	0,44	0,00
Transportation of products	9.948,68	0,20	0,45	0,00
Waste	90,15	0,00	0,00	0,00
Air Travel	40,51	0,00	0,00	0,00
Wastewater	0,00	0,86	0,00	0,00
Total	24.782,31	10,21	2,03	0,06

2025 Summary

Summary: emissions, removal and stock (tCO₂e)

In 2025, Madem’s Scope 1 and Scope 2 emissions, combined with the reported Scope 3 sources, totaled 25,682 tCO₂e. Biogenic emissions reached 222,542 tCO₂e, while biogenic removals from planted forests totaled 225,394 tCO₂e. Additionally, the carbon stock in the Group’s native and planted forest areas totaled 4,858,091 tCO₂e.



2024 vs. 2025

Emission Sources	Total Emissions				Variation	
	2024		2025		2024x2025	
	tCO ₂ e	%	tCO ₂ e	%	tCO ₂ e	%
Scope 1	1.957,9	7,6%	2.105,9	8,2%	148,0	7,6%
Mobile Combustion	1.109,9	4,3%	1.496,2	5,8%	386,3	34,8%
Stationary Combustion	823,7	3,2%	515,0	2,0%	-308,7	-37,5%
Fugitive Emissions	7,2	0,03%	76,4	0,30%	69,2	956,9%
Wastewater	17,1	0,1%	18,3	0,1%	1,2	7,3%
Scope 2	2.966,6	11,4%	3.167,8	12,3%	201,2	6,8%
Electricity Purchases	2.966,6	11,4%	3.167,8	12,3%	201,2	6,8%
Scope 3	20.991,9	81,0%	20.407,8	79,5%	-584,1	-2,8%
Transportation of Raw Materials	7.754,0	29,9%	10.178,5	39,6%	2.424,5	31,3%
Transportation of products	11.956,5	46,1%	10.073,4	39,2%	-1.883,1	-15,7%
Waste	1.237,4	4,8%	90,8	0,4%	-1.146,6	-92,7%
Air Travel	20,1	0,1%	41,1	0,2%	21,0	104,2%
Wastewater	23,8	0,1%	24,1	0,1%	0,3	1,1%
Grand Total	25.916,36	100%	25.681,53	100%	-234,8	-0,9%

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2024 vs. 2025

Between 2024 and 2025, Madem’s total emissions decreased **by 234,8 tCO₂e**, representing a reduction of **0.9%**. This decrease was driven primarily by a **2.8%** reduction in Scope 3 emissions, which account for the largest share. **Scope 1 and Scope 2** recorded **increases of 7.6% and 6.8%**, respectively. In absolute terms, the largest variations occurred in emissions related to Transportation of Raw Materials, with an increase of **2,424.5 tCO₂e (+31.3%)**. This increase stemmed from both the change in transported cargo **(+18.1%)** and the rise in the **average distance traveled by road (+16.2%)**. Road freight increased by **16.7%**, while maritime freight increased by **27.4%**.

The second source that varied the most, contributing to the reduction in emissions, was **Transportation of products, which decreased by 1,883.1 tCO₂e (-15.7%)**. This reduction resulted from a lower quantity of product transported by road **(-3.6%)** and a shorter average distance traveled through this mode **(-12.5%)**. Still within Scope 3, the third largest variation was recorded in solid waste, with a reduction of **1,146.6 tCO₂e (-90.3%)**, mainly due to a decrease in waste sent to landfills and an increase in waste directed to recycling or sold as a coproduct.

The **6.8% increase** in **Scope 2** resulted from a 12.7% rise in electricity consumption across units, which was partially offset by a reduction in the emission factors for electricity generation in Brazil, the United States, Spain, and Colombia.

Scope 1 emissions increased by 7.6%, driven mainly by the growth in **mobile combustion emissions (+386.3 tCO₂e)**, resulting primarily from greater LPG use at the United States units. This increase was partially offset by the **reduction in stationary combustion emissions (-308.7 tCO₂e)**, as a consequence of reduced wood chip consumption at the Rio Negro unit **(-38.8%)**.

Uncertainties

The uncertainty analysis was conducted using a combination of basic data uncertainty (GHG Protocol, 2022) and the Data Quality Matrix, also known as the Pedigree Matrix, a tool used to assess and describe uncertainty and data reliability in the inventory. The matrix assigns a quality score to the data, making it possible to identify which information is more reliable and which introduces greater uncertainty into the results. Based on the individual uncertainties of the data, uncertainty aggregation was performed using the first-order propagation method (Gaussian).

Total Emissions (tCO ₂ e)	Absolute Standard Deviation (tCO ₂ e)	Coefficient of Variation (%)
25.681,5	8.185,6	31,9%



Rio Negro
Brazil



Madem Gulf
Bahrain



Madem MooreCraft
Reels
EUA - Denton



Madem MooreCraft
Reels
EUA - Tarboro



EuroMadem
Spain



Sorocaba
Brazil



Floresta
Mostardas
Brazil



Barcarena
Brazil



Garibaldi
Brazil



Rio Negro - Florestal
Brazil



Madem Carretes
Colombia

Rio Negro - Brazil

Emissions by Source (tCO₂e)

Emission Source	Total Emissions		Biogenic Emissions	
	tCO ₂ e	%	tCO ₂ e	%
Scope 1	1.040,15	12,30%	29.209,12	97,96%
Stationary Combustion	513,05	6,07%	29.173,84	97,85%
Mobile Combustion	510,62	6,04%	35,29	0,12%
Fugitive Emissions	0,57	0,01%	-	0,00%
Wastewater	15,91	0,19%	-	0,00%
Scope 2	780,16	9,23%	-	0,00%
Electricity Purchases	780,16	9,23%	-	0,00%
Scope 3	6.634,67	78,47%	606,92	2,04%
Transportation of products	4.283,67	50,66%	237,67	0,80%
Transportation of Raw Materials	2.344,20	27,73%	347,28	1,16%
Waste	5,81	0,07%	21,97	0,07%
Air Travel	0,99	0,01%	-	0,00%
Grand Total	8.454,99	100%	29.816,04	100%

Rio Negro unit presented the highest contribution to the Madem Group's GHG emissions, totaling 8,454.99 tCO₂e. Transportation of products represented 50.66% of the total, followed by Transportation of Raw Materials (27.73%) and electricity purchases (9.23%).

Biogenic emissions totaled 29,816.04 tCO₂e. Of these emissions, stationary combustion was responsible for 97.85%, mainly due to the combustion of wood chips in boilers.

Madem Gulf - Bahrain

Madem Gulf, in Bahrain, was the second highest greenhouse gas-emitting unit among Madem’s units, **totaling 7,838.27 tCO₂e**. The most significant sources were in Scope 3, with **Transportation of Raw Materials (41.46%)** and **Transportation of products (39.21%)**. The third largest emission source was **electricity purchases (17.16%)**. **Scope 1 represented 1.92%** of emissions, mainly from **mobile combustion**.

No biogenic emission sources were identified at this unit in 2025.

Emissions by Source (tCO₂e)

Emission Source	Total Emissions	
	tCO ₂ e	%
Scope 1	150,73	1,92%
Mobile Combustion	150,61	1,92%
Fugitive Emissions	0,11	0,00%
Scope 2	1.344,99	17,16%
Electricity Purchases	1.344,99	17,16%
Scope 3	6.342,56	80,92%
Transportation of Raw Materials	3.249,37	41,46%
Transportation of products	3.073,31	39,21%
Air Travel	16,17	0,21%
Wastewater	3,71	0,05%
Grand Total	7.838,27	100%

Madem MooreCraft Reels – EUA – Denton

The Madem MooreCraft Reels unit, located in Denton, USA, emitted 3,289.51 tCO₂e.

The main source of emissions were in Scope 3, which was responsible for emission of 2,448.64 tCO₂e (74.44% of the total). Transportation of Raw Materials stood out, representing 58.70% of emissions, followed by Transportation of products at 15.52%. Electricity purchases generated 428.95 tCO₂e, corresponding to 13.04% of the total.

During 2025, no biogenic emissions were recorded at this unit.

Emissions by Source (tCO₂e)

Emission Source	Total Emissions	
	tCO ₂ e	%
Scope 1	411,92	12,52%
Mobile Combustion	409,16	12,44%
Fugitive Emissions	2,76	0,08%
Scope 2	428,95	13,04%
Electricity Purchases	428,95	13,04%
Scope 3	2.448,64	74,44%
Transportation of Raw Materials	1.930,88	58,70%
Transportation of products	510,63	15,52%
Wastewater	7,14	0,22%
Grand Total	3.289,51	100%

Madem MooreCraft Reels – EUA – Tarboro

The Madem MooreCraft Reels unit in Tarboro, USA, was responsible for emissions of 3,045.61 tCO₂e. Under Scope 3, Transportation of products accounted for 48.94% of the total, followed by Transportation of Raw Materials (35.73%). Electricity purchases represented 11.10% of emissions. Under Scope 1, mobile combustion stood out, accounting for 3.88% of emissions.

Throughout 2025, no biogenic emissions were recorded at this unit.

Emissions by Source (tCO₂e)

Emission Source	Total Emissions	
	tCO ₂ e	%
Scope 1	120,91	3,97%
Mobile Combustion	118,18	3,88%
Fugitive Emissions	2,73	0,09%
Scope 2	338,11	11,10%
Electricity Purchases	338,11	11,10%
Scope 3	2.586,59	84,93%
Transportation of products	1.490,45	48,94%
Transportation of Raw Materials	1.088,21	35,73%
Wastewater	6,59	0,22%
Air Travel	1,35	0,04%
Grand Total	3.045,61	100%

EuroMadem - Spain

In 2025, the EuroMadem unit, located in Spain, accounted for a total of 2,653.28 tCO₂e. Scope 3 accounted for 84.33% of the unit's emissions, with Transportation of Raw Materials (59.02%) and Transportation of products (21.82%) standing out as the main emission sources.

Under Scope 2, electricity purchases accounted for 10.12% of emissions. Scope 1 contributed with only 5.55% of the total, originating exclusively from mobile combustion (2.90%) and fugitive emissions (2.65%).

Throughout the year, no biogenic emissions were identified in the unit's operations.

Emissions by Source (tCO₂e)

Emission Source	Total Emissions	
	tCO ₂ e	%
Scope 1	147,24	5,55%
Mobile Combustion	77,03	2,90%
Fugitive Emissions	70,20	2,65%
Scope 2	268,54	10,12%
Electricity Purchases	268,54	10,12%
Scope 3	2.237,50	84,33%
Transportation of Raw Materials	1.565,84	59,02%
Transportation of products	578,85	21,82%
Waste	84,41	3,18%
Wastewater	4,51	0,17%
Air Travel	3,89	0,15%
Grand Total	2.653,28	100%

Sorocaba - Brazil

Emissions by Source (tCO₂e)

Emission Source	Total Emissions		Biogenic Emissions	
	tCO ₂ e	%	tCO ₂ e	%
Scope 1	30,07	18,62%	1,15	5,29%
Mobile Combustion	30,07	18,62%	1,15	5,29%
Scope 2	1,11	0,69%	-	0,00%
Electricity Purchases	1,11	0,69%	-	0,00%
Scope 3	130,28	80,69%	20,61	94,71%
Transportation of products	128,39	79,52%	19,02	87,43%
Waste	0,42	0,26%	1,58	7,28%
Wastewater	1,47	0,91%	-	0,00%
Grand Total	161,46	100%	21,76	100%

The **Sorocaba** unit accounted for a **total emissions of 161.46 tCO₂e**. The main contribution came from **Scope 3**, with **Transportation of products** accounting for **79.52%** of the total emissions. **Scope 1** emissions accounted for **18.62%** and originated from mobile combustion in vehicles.

Biogenic emissions had **Transportation of products** as their main source, **representing 87.43% of the total**.

Florestal Mostardas - Brazil

The Florestal Mostardas unit totaled 115.76 tCO₂e in 2025. The main source was mobile combustion, with 113.35 tCO₂e (97.92% of the unit's emissions), resulting mainly from diesel consumption in tractors (72.00% of the category) and operational vehicles (17.06% of the category).

With regard to **biogenic emissions**, agricultural activities (timber harvesting) were responsible for 144,666.12 tCO₂e (99.99% of emissions). Mobile combustion also generated 17.10 tCO₂e of biogenic emissions, mainly due to the presence of biodiesel in the diesel used in tractors, operational vehicles, and forestry buses.

Emissions by Source (tCO₂e)

Emission Source	Total Emissions		Biogenic Emissions	
	tCO ₂ e	%	tCO ₂ e	%
Scope 1	115,21	99,52%	144.666,12	100,00%
Mobile Combustion	113,35	97,92%	17,10	0,01%
Stationary Combustion	0,60	0,52%	0,11	0,00%
Agricultural Activities	-	0,00%	144.648,91	99,99%
Wastewater	1,26	1,09%	-	0,00%
Scope 2	0,55	0,48%	-	0,00%
Electricity Purchases	0,55	0,48%	-	0,00%
Grand Total	115,76	100%	144.666,12	100%

Barcarena - Brazil

In **Barcarena**, emissions totaled **49.10 tCO₂e** in 2025. The main source was **mobile combustion**, responsible for **80.82%** of the unit's emissions, resulting from the use of LPG and gasoline in operational vehicles. **Transportation of products** was the second largest emission source, representing **16.52%** of total emissions.

Regarding **biogenic emissions**, a total of **2.21 tCO₂e** was emitted due to Transportation of products (54.40%), mobile combustion (27.66%), and waste (17.94%).

Emissions by Source (tCO₂e)

Emission Source	Total Emissions		Biogenic Emissions	
	tCO ₂ e	%	tCO ₂ e	%
Scope 1	39,69	80,82%	0,61	27,66%
Mobile Combustion	39,69	80,82%	0,61	27,66%
Scope 2	0,75	0,65%	-	0,00%
Electricity Purchases	0,75	0,65%	-	0,00%
Scope 3	8,66	17,65%	1,60	72,34%
Transportation of products	8,11	16,52%	1,20	54,40%
Waste	0,11	0,21%	0,40	17,94%
Wastewater	0,45	0,91%	-	0,00%
Grand Total	49,10	100%	2,21	100%

Garibaldi - Brazil

In 2025, the **Garibaldi** unit had total emissions of **25.07 tCO₂e**. Most emissions were concentrated in **Scope 3 (61.43%)**, resulting especially from **air travel carried out by employees (61.43%)**. The second largest emission source was **mobile combustion**, under Scope 1, responsible for **25.51%** of the unit's emissions.

Biogenic emissions in Garibaldi came from mobile combustion (biodiesel and ethanol present in diesel and gasoline, respectively).

Emissions by Source (tCO₂e)

Emission Source	Total Emissions		Biogenic Emissions	
	tCO ₂ e	%	tCO ₂ e	%
Scope 1	7,06	28,17%	1,63	100,00%
Mobile Combustion	6,40	25,51%	1,63	100,00%
Wastewater	0,67	2,65%	-	0,00%
Scope 2	2,61	10,40%	-	0,00%
Electricity Purchases	2,61	10,40%	-	0,00%
Scope 3	15,40	61,43%	-	0,00%
Air Travel	15,40	61,43%	-	0,00%
Waste	0,00	0,00%	-	0,00%
Grand Total	25,07	100%	1,63	100%

Rio Negro (Florestal) - Brazil

Emissions by Source (tCO₂e)

The Rio Negro – Florestal unit emitted a total of 25.00 tCO₂e. The unit's emissions were concentrated mainly in **mobile combustion (90.14%)**, due to the use of diesel in operational vehicles, tractors, and buses.

Biogenic emissions totaled 48,034.17 tCO₂e, with 99.99% of emissions resulting from agricultural activities (timber harvesting). **Mobile combustion** had lower representativeness **(0.01%)**, and its biogenic emissions resulted from the biodiesel fraction present in diesel commercialized in Brazil.

Emission Source	Total Emissions		Biogenic Emissions	
	tCO ₂ e	%	tCO ₂ e	%
Scope 1	24,33	97,35%	48.033,97	100,00%
Stationary Combustion	1,31	5,24%	0,12	0,00%
Mobile Combustion	22,53	90,14%	3,34	0,01%
Agricultural Activities	-	-	48.030,51	99,99%
Wastewater	0,49	1,98%	-	-
Scope 2	0,61	2,44%	-	-
Electricity Purchases	0,61	2,44%	-	-
Scope 3	0,05	0,21%	0,20	0,00%
Waste	0,05	0,21%	0,20	0,00%
Grand Total	25,00	100%	48.034,17	100%

Madem Carretes de Colombia

In 2025, the Madem Carretes de Colombia unit emitted 23.48 tCO₂e. Mobile combustion was the main emission source, totaling 18.58 tCO₂e (79.13%), due to the combustion of gasoline and LPG in operational vehicles. Air travel, a Scope 3 category, was the second main source of the unit's emissions, accounting for 13.91% of the total.

Emissions by Source (tCO₂e)

Emission Source	Total Emissions	
	tCO ₂ e	%
Scope 1	18,60	79,20%
Mobile Combustion	18,58	79,13%
Fugitive Emissions	0,02	0,08%
Scope 2	1,41	6,01%
Electricity Purchases	1,41	6,01%
Scope 3	3,47	14,78%
Air Travel	3,27	13,91%
Wastewater	0,21	0,88%
Grand Total	23,48	100%

Future Actions

- Develop an Action Plan with clear targets for the reduction and offsetting of greenhouse gas emissions.
- Prioritize, in logistics operations, the use of ethanol-powered vehicles and evaluate the gradual fleet renewal with lower-impact models, such as hybrid and electric vehicles.
- Whenever feasible, replace fossil fuels used in yard machinery with lower-emission alternatives, including electric equipment such as forklifts.
- Encourage the use of renewable energy sources at Brazilian units, either through self-generation for self-consumption or by purchasing renewable energy in the incentivized free market, reducing dependence on electricity from the National Interconnected System (SIN). It is also advisable to evaluate similar practices adopted internationally.
- Consider the acquisition of I-RECs (Renewable Energy Certificates) to offset Scope 2 emissions, as well as carbon credits for the partial or total offsetting of Scopes 1, 2, and 3.
- Implement initiatives aimed at reducing emissions associated with the transportation and commercialization of inputs and products.
- Develop incentive policies for suppliers that demonstrate greater fleet efficiency.