Greenhouse Gas Emissions Inventory – 2023 – Equatorial Energia Company – Holding

Version: V01

Drafted: 2024

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Glossary

Operational control – organizational boundary approach in which the organization is responsible for all quantified GHG emissions and/or removals from facilities over which it has operational or financial control

DEFRA – Department for Environment, Food and Rural Affairs

Scope 1 - GHG emissions from sources belonging to or controlled by the organization. This category includes emissions due to the burning of fuels to generate electrical, thermal or mechanical energy, emissions from chemical processes and fugitive emissions.

Scope 2 - GHG emissions arising from the generation of electrical or thermal energy, imported from the distribution network and consumed.

Scope 3 - Referring to indirect emissions, not associated with imported energy, which are related to the organization's activities, but originating from sources that belong to or are controlled by other organizations.

GHG – Greenhouse Gases

GWP – Global Warming Potential (Global Warming Potential)

Uncertainty - parameter associated with the quantification result that characterizes the dispersion of values that can be reasonably attributed to the quantified value (ABNT NBR ISO 14.064-2: 2007).

NDC - Nationally Determined Contribution (Nationally Determined Contribution)

UNFCCC – United National Framework Convention on Climate Change (United Nations Framework Convention on Climate Change)

Inmetro - National Institute of Metrology, Quality and Technology

IPCC – Intergovernmental Panel on Climate Change (Intergovernmental Panel on Climate Change)

CDM – Clean Development Mechanism

MRV – Measurement, Reporting and Verification

Ownership participation – organizational limit approach in which the organization is responsible for the portion of GHG emissions and/or removals proportional to its ownership interest in the respective facilities.

Executive Summary

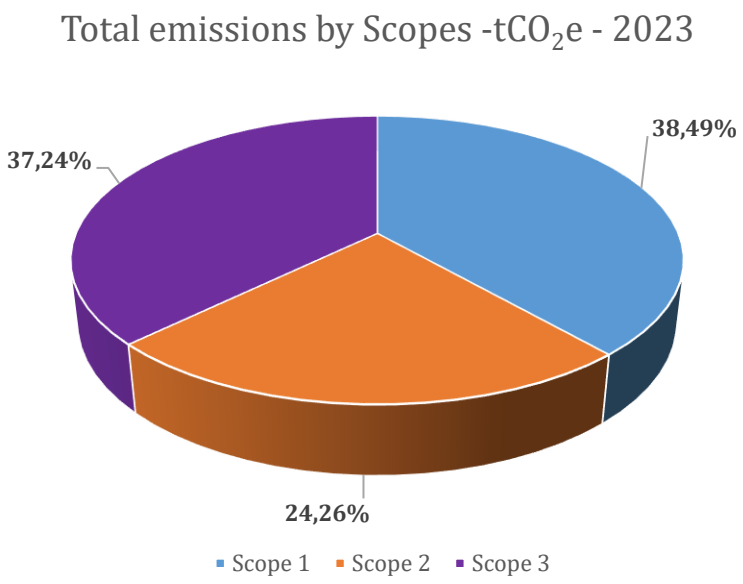
This inventory presents the GHG emissions of **Equatorial Energia S/A** , which occurred between January 1st and December 31st, 2023, including 13 installations in Brazil.

The emission sources present in scopes 1, 2 (Location) and 3 were identified.

The table below presents the total emissions of Scope 1, Scope 2 (Location and T&D Losses related to location) and 3, including the percentages that each scope represents compared to the sum of emissions.

SCOPE	tCO2e emissions	% of Emissions over the Sum of Scopes
Scope 1	380,173.30	38.49%
Scope 2 (Location)	239,614.17	24.26%
Scope 3	367,842.48	37.24%
SUM OF EMISSIONS	987,629.95	100.00%
biogenic CO2	2,437.40	

2 emissions from renewable fuels are reported separately as " biogenic CO 2 emissions".



In view of what is presented in this inventory, considering an approach by location, it is concluded that the sources present in Scope 1 are responsible for the majority of emissions with **380,173.30 tCO $_2$ e** e represents **38.49%** of the sum of the scopes. Scope 3 is responsible for **37.24%** of GHG emissions with **367,842.48 tCO2e .** Scope 2 (Location), represented by the purchase of electrical energy from the National Interconnected System (SIN) and Technical Losses in transmission from Equatorial Holding represents **24.26%** of emissions with **239,614.17 tCO2e**

Based on the diagnosis presented in this inventory, corporate management strategies for GHG emissions can be defined that direct Equatorial's activities towards a low carbon scenario.

Summary

Introduction

The greenhouse effect is a natural phenomenon in which heat reflected from the planet's surface is retained in the atmosphere, promoting an increase in temperatures. This retention is done by GHGs (Greenhouse Gases), to a greater or lesser extent, depending on their concentration.

The greenhouse effect, at a level of natural balance, is a facilitator for maintaining life, as it reduces temperature variations. In the absence of the effect, fluctuations in temperature between sunny and shaded areas would be around hundreds of degrees Celsius, making the environment quite hostile and unfavorable to life forms adapted to our planet's climate.

The appeal regarding the issue of climate change is the result of the significant increase in GHG emissions due to human activity, which has increased the concentration of these gases to unprecedented levels in the history of the Earth, having intensified since the industrial revolution, mainly as a result of the burning of fuels fossils.

The increase in the concentration of GHGs in the atmosphere promotes the phenomenon known as global warming, which unbalances the climate system and makes predictions in terms of the need for adaptation difficult.

IPCC reports showed that the manageable limit of temperature increase is 1.5 ºC by the end of the century. This limit would allow adaptation to changes in most living species and current social economic systems.

According to the latest Emissions Report from the United Nations Environment Program (UNEP), global greenhouse gas emissions need to fall by 42% by 2030.

For this to be possible, the ambition of the measures and cuts foreseen in national plans needs to be five times greater. This means reducing emissions by 43% by 2030 and achieving emissions neutrality by 2050 (UNEP).

In the national scenario, according to NDC (2022), Brazil must reduce its emissions by 48% by 2025 and 53% by 2030, using the year 2005 as a base.

In this context, global concern with this topic is gaining increasing prominence in international and national discussions. Studies on pricing, mitigation, adaptation, allocation of permissions, emission limitations (*cap*) and certificate trading (*trade*) are topics that directly impact the economy and have gained momentum as the problem worsens.

Therefore, it is imperative that organizations address the issue in order to prepare their GHG emissions management strategies. For adequate decision-making, it is essential to have quality information about corporate emissions, with consolidated methodologies and clear results.

The emissions inventory is the activity that generates relevant information for adequate emissions management and, therefore, has the function of providing clarity and support for organizational decision-making based on the specific context in which it was developed.

The GHG Emissions Inventory includes all gases regulated by the Kyoto Protocol, including:

- Carbon Dioxide (CO_2);
- Methane (CH_4);
- Nitrous Oxide (N_2O);
- Sulfur Hexafluoride (SF_6);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs);
- Nitrogen Trifluoride (NF_3).

Regulatory environment in Brazil

Brazil, by assuming commitments to the UNFCCC (United National Framework Convention on Climate Change), should promote the emission reductions presented in the NDC (Nationally Determined Contribution). The legal framework around emissions is still being formed and has entities and legislation, at national and state level, of which the following stand out:

Interministerial Commission on Global Climate Change and Green Growth – CIMGCCV

CIMGC was created on October 25, 2021, through decree No. 10,845, and its purpose is to establish guidelines, articulate and coordinate the implementation of the country's public actions and policies related to climate change.

National Policy on Climate Change – Law 12,187/2009

The National Policy on Climate Change (PNMC), established in December 2009 and regulated by Decree No. 7,390/2010, revoked by Decree No. 9,578/2018, takes the first steps towards regulating the climate issue in Brazil. The PNMC aims, among other objectives, to make socioeconomic development compatible with the protection of the climate system, reduce GHG emissions, implement measures to promote adaptation to climate change, expand protected areas and encourage reforestation, and stimulate the development of Brazilian Emissions Reduction Market (MBRE).

Climate Change Policy of the State of São Paulo – Law nº 13,798/2009

Its objectives are quite similar to those highlighted in the PNMC, covering the promotion of projects to reduce emissions, GHG sequestration or sinks, the establishment of forms of productive transition that generate changes in behavior with a focus on reducing GHG emissions, the stimulation of research and participation of different segments of society in the management of legal instruments and the promotion of a sustainable urban planning system with low environmental and energy impact.

National Fund on Climate Change - Law 12,114/2009

Created based on Law No. 12,114/2009 and regulated by Decree No. 7,343/2010, the National Climate Change Fund (FNMC) is linked to the Ministry of the Environment and the National Bank for Economic Development (BNDES) and has the purpose of ensure resources to support projects or studies and finance ventures aimed at mitigating and adapting to climate change.

INEA

On December 18, 2012, resolution of the State Institute of the Environment (INEA) No. 64 was published in the Official Gazette, which provides for the presentation of an inventory of GHG emissions for environmental licensing purposes in the State of Rio de Janeiro.

CETESB

On August 24, 2012, the Environmental Company of the State of São Paulo - CETESB published Decision No. 254, which establishes the obligation to carry out an inventory of GHG emissions in some sectors.

SEMA - PR

On December 22, 2014, the Environment Secretariat of the State of Paraná published Resolution No. 58, which provides for the implementation of the State Public Register of Greenhouse Gas Emissions, establishing procedures and criteria to be adopted for: Protocol of Intent , Emissions Declaration, Emissions Inventory and granting of public recognition seals.

ABRAVERI

The Brazilian Association of Companies for Verification and Certification of Greenhouse Gas Emission Inventories and Socio-Environmental Reports (ABRAVERI) was founded in June 2013 with the aim of:

- Technically support the formulation of public, governmental or private programs and records of emissions inventories and suggest practices that strengthen MRV;
- Be a guiding entity to promote uniformity of information on emissions and socio-environmental reports and dissemination of the regulatory environment on the topic.
- Work with Municipal, State and Federal Programs relating to carbon emissions and participate in groups, work committees and events, in order to provide technical support for the success of policies related to emissions reporting.
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The organization

Equatorial Energia is the 3rd largest distribution group in the country in terms of number of customers. Founded in 1999, the Company has advanced in the consolidation of the energy distribution sector in Brazil and currently operates 6 concessionaires, in the states of Maranhão, Pará, Piauí, Alagoas, Rio Grande do Sul and Amapá, serving around 10 million customers in these regions . The Company also operates in the Transmission sector and recently entered the Sanitation sector, becoming the first multi-utilities company in the country, in addition to acquiring 100% of the shares of Echoenergia SA, starting a chapter in the Renewables sector and effectively becoming an integrated player in the energy segment.

Equatorial Energia's operating segments are:

- Energy distribution: through the companies Equatorial Maranhão, Equatorial Pará, Equatorial Piauí, Equatorial Alagoas, CEEE-D (RS) and CEA (AP), covering 24% of the national territory and serving around 10 million customers;
- Transmission: 9 operational assets and more than 3,200 km of lines, totaling more than R$ 1.3 billion in RAP;
- Renewables: through Echoenergia , with 10 operational parks totaling 1.2 GW of installed capacity, and another additional 1.2 GW in projects;
- Distributed Generation: through E-nova , with a strong presence in the state of Maranhão;
- Sanitation: from the Amapá Sanitation Company (in operational phase since July 12, 2022), serving more than 800 thousand people;
- Energy commercialization: through Solenergias ;
- Telecommunications: through Equatorial Telecom, with more than 4,500 km of network; and
- Services: through Equatorial Serviços, providing support activities to the group's other businesses.

Equatorial Maranhão is a distribution company and the only concessionaire in the State of Maranhão, with an operating area of 332 thousand km², almost 4% of the Brazilian territory, covering around 7 million inhabitants, that is, 3.4% of the Brazilian population. . Serving approximately 2.5 million consumers in the 217

municipalities that make up the State of Maranhão, Equatorial Maranhão, in 2021, added 34 thousand new consumers to its market, an increase of 1.3% compared to 2020, and distributed 7,088 GWh .

Equatorial Pará is a distribution company and the only concessionaire in the State of Pará. Controlled by Equatorial Energia since November 2012, with an operating area of 1,248 thousand km², around 14.7% of the Brazilian territory, which covers 8.2 million of inhabitants, 4% of the country's population. Equatorial Pará has 2.6 million customers in 144 municipalities. Energy distribution in 2021 was 13,311 GWh , that is, 529 GWh more compared to 2020.

Equatorial Piauí is an energy distributor and the only concessionaire covering the entire State of Piauí, whose controlling interest was acquired in October 2018. It has an operating area of 251 thousand km², almost 3% of the national territory, and serves approximately 1.3 million consumers in 224 municipalities. Energy distribution from January to December 2021 was 3,955 GWh , compared to 3,693 GWh in 2020, representing a growth in the volume of energy consumed of 7.1%.

In Alagoas, Equatorial acquired controlling interest in Equatorial Alagoas in March 2019. It serves approximately 1.2 million consumers in 102 municipalities in the State in a concession area of 27,848 km², with more than 42 thousand kilometers of lines and distribution networks. Distributed energy grew 3.4% in the comparison between 2021 and 2020.

The Amapá Energy Company (CEA) serves a population of around 845 thousand inhabitants, CEA takes energy to 209 thousand consumer units in the 16 municipalities of the State of Amapá. The Equatorial Group was the winner of the auction held by the National Bank for Economic and Social Development (BNDES) on June 25, 2021 for the privatization of the Company. Control was assumed in November of the same year, when a 100-day plan was put into action to serve the cities in the concession area.

State Electric Energy Company (CEEE-D), Equatorial Energia won, on March 31, 2021, the auction that defined it as the new controller of CEEE-D, an energy distributor that serves 72 municipalities in the State of Rio. Grande do Sul. Energy distribution in the year was 7,804 GWh , which corresponds to 55 GWh more compared to 2020.

The Equatorial Group entered the transmission segment in 2016, with the acquisition of eight auctioned lots that gave rise to Equatorial Transmissão. There are eight projects for the construction and operation of transmission lines and

substations, which began to come into operation in 2019 and cover around 2,500 km. The Allowed Annual Revenue (RAP) of the total lots sold by the Company amounts to just over R$1.3 billion in August 2022 values. In addition to these transmission lines, Equatorial holds 100% of the total and voting capital of Intesa , operating line with approximately R$186 million in RAP in 2021.

Intesa , in 2018 Equatorial Energia acquired all the shares owned by Eletrobrás, becoming the owner of INTESA – Integração Transmissora de Energia SA and therefore assuming the responsibility for managing and complying with the contractual milestones for the operation and maintenance of the facilities transmission and substations associated with – LT 500 kV North – South Interconnection III – Lot B, located in the States of Tocantins and Goiás. The start date of the commercial operation of the project was May 30, 2008. In 2021 the RAP was R $186 million reais

In the generation segment, Equatorial has controlling interest in Enova Instabilidade e Manutenção, a distributed generation company operating in the northeast of the country. Currently, Enova is the largest distributed generation company in Maranhão, the only one in the State that has the Emerald Seal from Portal Solar, and is a member of G5 Solar. He was also the epcist for the Coroatá pilot project.

In February 2022, Equatorial Energia took an important step towards the diversification of its business and completed the acquisition of Echoenergia . The business is in line with Equatorial's strategic objective of taking advantage of growth opportunities with the opening of the free market, energy transition, investing more in renewable energy and generating value for the company's shareholders, with a focus on financial efficiency.

Echoenergia has 1.2 GW of wind generation capacity, with 12 parks installed . Furthermore, it is well-positioned to grow in the coming years, with projects already practically ready to begin the construction of projects – most of them solar generation, with five in total.

Equatorial Energia also operates in the sanitation sector through Companhia de Saneamento do Amapá (CSA), a Special Purpose Company controlled by Equatorial together with SAM Ambiental.

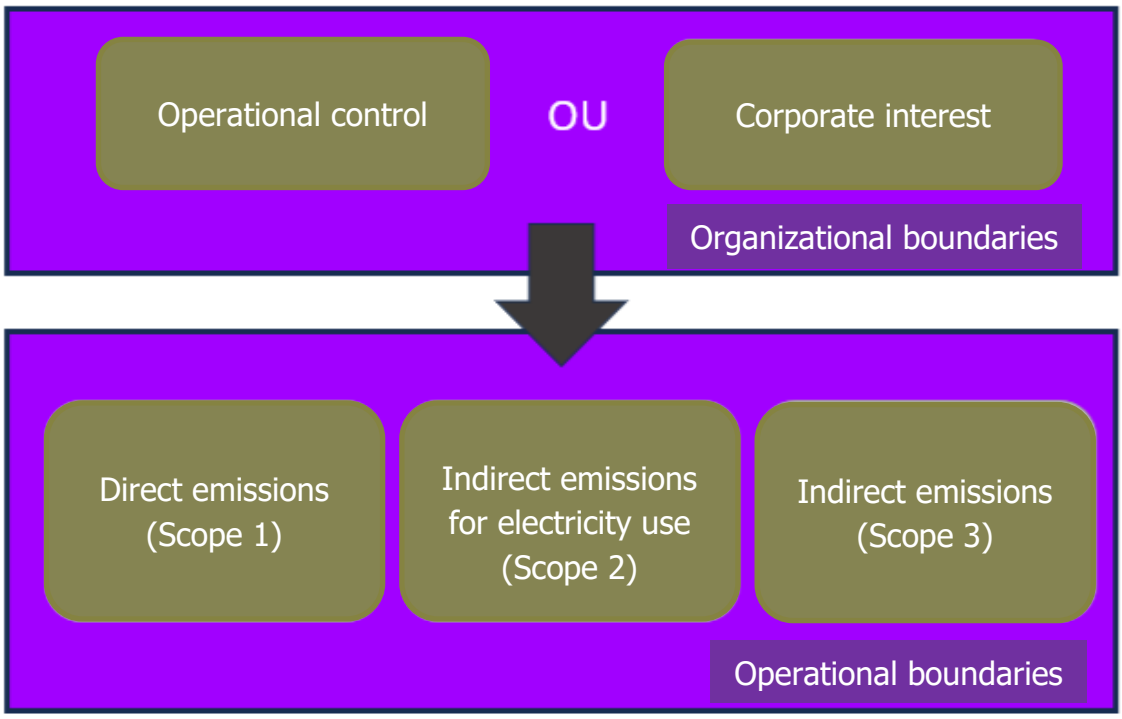
The company is also present in the telecommunications sector through Equatorial Telecom, a fiber optic telecommunications company and secure telephone service, which currently provides 0800 services for the Equatorial Group's

agencies and ombudsman. And finally, Equatorial Serviços, a company with solutions for the market, operating in the states of Maranhão, Pará, Piauí, Alagoas and Rio Grande do Sul, in the call center, sales, backoffice activities and other customer solutions segments.

Organizational and operational limits

This inventory presents the GHG emissions of **Equatorial Energia S/A** , which occurred between January 1st and December 31st, 2023, including 13 installations in Brazil.

The definition of organizational and operational limits were made in accordance with the definitions contained in the GHG Protocol , as follows:



Organizational limits:

Operational control: the organization is responsible for all quantified GHG emissions and/or removals from facilities over which it has operational or financial control.

participation : the organization is responsible for the portion of GHG emissions and/or removals proportional to its equity participation in the respective facilities.

Operating limits:

Scope 1: GHG emissions from sources belonging to or controlled by the organization. This category includes emissions due to the burning of fuels to generate electrical, thermal or mechanical energy, emissions from chemical processes and fugitive emissions. Any CO_2 emissions caused by renewable fuels are quantified and reported separately.

Scope 2: GHG emissions arising from the generation of electrical or thermal energy, imported from the distribution network and consumed.

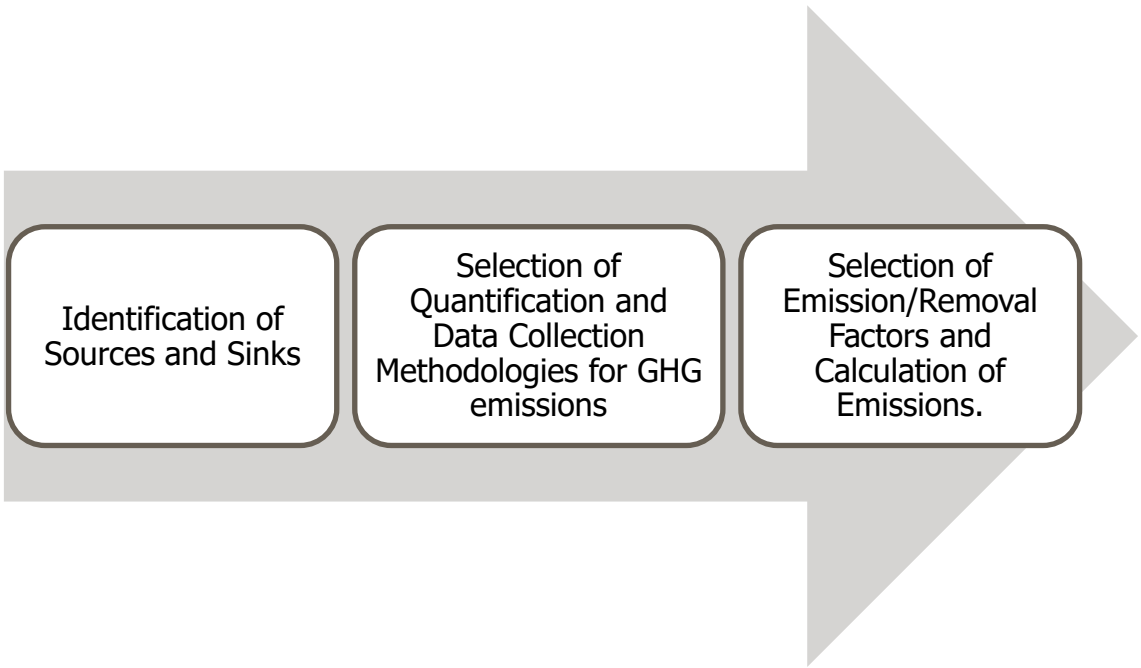
Scope 3: Referring to indirect emissions, not associated with imported energy, which are related to the organization's activities, but originating from sources that belong to or are controlled by other organizations.

To carry out the inventory of the company Equatorial Holding, the limits considered were:

Organizational boundary	Operating limit
Operational control	Scope 1, 2 and 3

Workflow

The quantification of GHG emissions was carried out according to the following process:



Quantification methodologies

- Specifications of the Brazilian GHG Protocol Program – Accounting, Quantification and Publication of Corporate Inventories of Greenhouse Gas Emissions.
- Calculation tool for the Brazilian GHG Protocol Program Version 2024 0.2.

Selection of emission factors

The parameters, emission factors and reference sources used can be found in the calculation tool of the Brazilian GHG Protocol Program .

Due to gaps in the tool, it may be necessary to use additional parameters and emission factors. If this occurs, it will be referenced in the calculation section in which they were used.

Calculation of GHG emissions

The calculation of GHG emissions is prepared according to the peculiarities of each source considered, such as:

- For burned fuels, published emission factors are used;
- For the displacement of solid waste, anaerobic treatment of effluents and emissions due to the use of fertilizers, the IPCC equations apply;
- For fugitive emissions, the basis of qualification is the global warming potentials of each gas;
- For air travel, DEFRA provisions are used.
- For emissions due to electricity consumption, the emission factor of the national distribution network is used.

In this way, each source has a specific treatment for quantifying its documented emissions.

Uncertainties

The process of preparing an emissions inventory is subject to variation in data quality due to inherent uncertainties.

The analysis of these uncertainties allows us to understand the existence of a relevant quantification risk and is essential to ensure that the emissions inventory adheres to the desired materiality levels.

The uncertainty analysis that follows promoted an assessment of the process and the calculation of emissions vis-à-vis the causes of uncertainties identified by the IPCC, with potential impact on the quantification of GHG emissions, and is organized to allow an assessment of uncertainties by source of emissions.

- **Lack of Integrity:** Occurs when there is a lack of available data, either due to non-recognition of the process or the non-existence of measurement methods. Generally, a lack of integrity can lead to a

tendency toward incomplete concepts, but it can also contribute to random errors depending on the situation.

- **Model:** It can simply be a simple multiplication factor or, given its degree of complexity, it can become a complicated process model. The use of models to estimate GHG emissions and removal may present uncertainties, either as bias or random error.

- **Lack of Data:** In some situations, there simply is not enough available data needed to characterize a particular removal or emission. In these situations, it is common to use surrogate data from similar categories or perform interpolation or extrapolation to estimate missing data.

- **Lack of Data Representativeness:** Occurs when the available data does not fully correspond to the real GHG emission/removal conditions.

- **Random Statistical Sampling Error:** This source of uncertainty is associated with the data which is a random sample of finite size and generally dependent on the variance of the population from which the sample was drawn and the size of the sample itself.

- **Measurement Uncertainties :** May be random or systemic; result of archiving and transmitting information; the resolution of finite instruments; the inaccuracy of measurement standards and material references; the inaccuracy of the values of constants and other parameters, obtained from external sources, used in mathematical reduction; the approximation and assumption incorporated into measurement methods and estimation procedures; and/or from variations in repeated observations of the emission or removal or associated variable under apparently identical conditions.

- **Incorrect Presentation or Classification Errors:** The uncertainties in this case are due to incorrect, incomplete and confusing definitions of emissions or removals.

- **Lost Data:** When a measurement is attempted, however, there are no values available.

The uncertainties in this emissions inventory are associated with data collection and the calculation of emission factors.

Uncertainty analysis

Nature of Uncertainty	Origin of Uncertainty	Analysis
Emission Factors	Construction of factors	They are inherent to the emission factors used in the calculation tool and the responsibility of the agents who publish them.
Gauges	Scales	The inherent uncertainty is the deviation allowed by INMETRO for scales (±2%).
	Fuel Pumps	Inaccuracy in fuel pumps is established by INMETRO (±0.5%).
	cylinders	The inaccuracy in the exact weight of each cylinder is established by IPEM (±2.3%).
	Fire extinguishers	Recharging must only be done with the nominal load of the extinguishing agent, with a load tolerance of 5% or less (INMETRO - Ordinance nº 005, of January 4, 2011).
	Liquid effluent flow meters	The effluent flow is obtained through flow meters with precision of the order of ±1%, and the other characteristics are obtained through specific meters with good precision, which must be calibrated periodically to avoid losing accuracy.
	Natural gas meters	The accuracy of devices for measuring natural gas consumption is established at ±1.5% (INMETRO ANP Ordinance No. 1 of June 19, 2000).
	Electricity Meters	The accuracy of measurements is subject to control by both the user and government bodies. Therefore, it is expected that, in these parameters, uncertainties will be greatly reduced – less than 3.5% (ANEEL).
Records	Data collection and transcription	The organization's records are subject to recurring audits, so it can be considered that any deviations are reviewed in a timely manner in order to remain accurate and complete for the Emissions inventory.

Quality management

GHG information management

Accenture's conduct is to guide the inventory organization to ensure that GHG information management is carried out to promote:

- The relevance of the inventory, selecting the sources, sinks, GHG reservoir, as well as data and methodologies appropriate to the needs of the intended user;
- The completeness of the inventory, including relevant GHG emissions and removals and documenting any exclusions and their justification;
- Consistency, in order to allow meaningful comparisons of information related to GHGs;
- Precision, mitigating uncertainties and asymmetries within the principle of reasonableness; and
- Transparency, disclosing sufficient and appropriate information related to GHGs in order to allow the user to make decisions based on quality information.

Accenture’s GHG information management procedures are:

- Definition and critical analysis of the responsibility and authority of those responsible for developing the GHG inventory;
- Appropriate training of those responsible for developing the inventory;
- Identification and critical analysis of organizational limits;
- Identification and critical analysis of GHG sources and sinks;
- Selection and critical analysis of quantification methodology, including GHG activity data and GHG emission and removal factors that are consistent with the intended use of the inventory;
- Critical analysis of the application of quantification methodologies to ensure consistency across multiple installations;

Procedures, document retention and record keeping

The inventory organization certifies that GHG information management procedures consider:

- Use, maintenance and calibration of measuring equipment;
- Development and maintenance of an efficient data collection system;
- Regular accuracy check;
- Periodic critical analysis of opportunities to improve information management processes.

The inventory organization undertakes to maintain documentation supporting the planning, development and maintenance of the GHG inventory to enable eventual independent verification of the same .

Selection and establishment of the base year

The organization must establish a historical base year for GHG emissions and removals for the purpose of making comparisons or to meet GHG program mandates or other intended uses of the Emissions Inventory.

Equatorial Holding adopted its first GHG inventory period of 2021 as a base year, considering the availability of verifiable GHG emissions data.

Identification of sources and sinks

The quantities used to calculate each of the identified emission sources were provided by the inventory organization.

Scope	Category	Emission source
Scope 1	Stationary Combustion	Commercial Diesel Oil
	Mobile Combustion	Liquefied Petroleum Gas (LPG)
		Commercial Diesel Oil
		Automotive gasoline (commercial)
		Hydrated Ethanol
	Fugitive Emissions	Carbon dioxide extinguishers
		Sulfur Hexafluoride (SF6)
		R-401A
		R-407C
		R-410A
	Non-Kyoto Fugitive Emissions	HCFC-22
	Land use change	Vegetation suppression
	Effluents	Liquid effluents
Scope 2	Purchase of Electricity	Energy by Location
	Technical T&D Losses	Energy by Location
Scope 3	Activities related to fuel and energy not included in Scopes 1 and 2	Non-technical losses
		Import of energy from UTE
	Business Travel	Air Travel
	Home-work commute	Public Transport
		Private Transport

Emissions quantification

The quantities used to calculate GHG emissions for each of the sources considered were obtained or calculated based on the organization's records.

To determine direct GHG emissions by type of source, emission factors, equations, parameters and calculations were used in accordance with the ABNT NBR ISO 14064:2007 standard and the GHG Protocol - Brazilian Program.

Scope 1: Direct emissions

To determine direct GHG emissions by type of source, emission factors, equations, parameters and calculations were used in accordance with the ABNT NBR ISO 14064:2007 standard and the GHG Protocol - Brazilian Program.

Stationary Combustion:
Stationary combustion is the burning of different fuels to generate energy using stationary equipment (boilers, furnaces, burners, turbines, heaters, incinerators, engines, torches, etc.).
The data for calculating emissions was made available by Equatorial's corporate area.

GHG emissions resulting from burning Diesel Oil

Definition: Diesel Oil is a fossil fuel derived from petroleum. It is a compound formed mainly by carbon, hydrogen and, in low concentrations, sulfur, nitrogen and oxygen. This is produced at high temperatures through atmospheric distillation of crude oil.

Uncertainty : Inaccuracy in fuel pumps.
Data considered: Quantity of Diesel Oil consumed in generators in 2023: 70,273.43 liters.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Emission Source	Amount	Unit	tCO2	tCH_4	tN_2O	tCO2e	Biogenic emissions (tCO_2)
Holding	Diesel Oil (pure)	62,191.99	Liters	163.62	0.01	0.00	164.22	*
	Biodiesel (B100)	8,081.44		19.85	0.00	0.00	*	19.85
Total		**70,273.43**	**Liters**	**183.47**	**0.01**	**0.00**	**164.22**	**19.85**

Note: Diesel oil sold in Brazil has a biodiesel component. CO_2 emissions resulting from biodiesel (renewable) added to diesel oil are reported separately, as biogenic CO_2 emissions.

Mobile Combustion

Mobile combustion is the burning of different fuels, for transport in general (the company's operational fleet) and off-road vehicles, such as those used in construction, agriculture and forestry.

GHG emissions resulting from burning Diesel Oil

Definition: Diesel Oil is a fossil fuel derived from petroleum. It is a compound formed mainly by carbon, hydrogen and, in low concentrations, sulfur, nitrogen and oxygen. This is produced at high temperatures through atmospheric distillation of crude oil.
Uncertainty: Inaccuracy in fuel pumps.
Data considered: Quantity of Diesel Oil consumed in 2023: 2,042,739.99 liters.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Emission Source	Amount	Unit	tCO2	tCH_4	tN_2O	tCO2e	Biogenic emissions (tCO2)
Holding	Diesel Oil (pure)	1,808,687.25	Liters	4,708.013	0.33	0.26	4,784.83	*
	Biodiesel (B100)	234,052.74	Liters	*	0.00	0.00	*	568.98
Total		**2,042,739.99**	**Liters**	**4,708.01**	**0.33**	**0.26**	**4,784.83**	**568.98**

GHG emissions resulting from burning gasoline

Definition: Gasoline is a mixture of hydrocarbons, being a fossil fuel derived from crude oil and produced through refining processes, generally made through the distillation of petroleum.
Uncertainty: Inaccuracy in fuel pumps.
Data considered: Quantity of Gasoline consumed in light vehicles in 2023: 1,180,829.45 liters.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Emission Source	Amount	Unit	tCO2	tCH_4	tN_2O	tCO2	Biogenic emissions (tCO2)
Holding	Automotive Gasoline (Pure)	862,005.50	Liters	1,906,756	0.77	0.23	1,988.42	*
	Anhydrous Ethanol	318,823.95	Liters	*	0.00	0.00	*	486.53
Total		**1,180,829.45**	**Liters**	**1,906.76**	**0.77**	**0.23**	**1,988.42**	**486.53**

Note: Gasoline sold in Brazil has an ethanol component. CO_2 emissions resulting from ethanol (renewable) are reported separately, as biogenic CO_2 emissions.

GHG emissions resulting from burning Ethanol

Definition: Ethanol (ethyl alcohol) is an organic substance obtained from the fermentation of sugars, hydration of ethylene or reduction to acetaldehyde. In Brazil, sugar cane is used to produce ethanol.
Uncertainty: Inaccuracy in fuel pumps.
Data considered: Quantity of Ethanol consumed in 2023: 22,603.96 liters.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Emission Source	Amount	Unit	tCO2	tCH_4	tN_2O	tCO2	Biogenic emissions (tCO2)
Holding	Ethanol	22,603.96	Liters	*	0.01	0.00	0.32	32.93
Total		**22,603.96**	**Liters**	*****	**0.01**	**0.00**	**0.32**	**32.93**

Note: Ethanol is a fuel of renewable origin and, therefore, CO_2 emissions are allocated as " Biogenic CO_2 Emissions".

GHG emissions resulting from the burning of Liquefied Petroleum Gas (LPG)

Definition: LPG (Liquefied Petroleum Gas) consists of a gaseous mixture of hydrocarbons obtained from natural gas in underground reserves, or from the oil refining process. This is produced in the process of refining crude oil and processing natural gas containing propane and butane.
Uncertainty: Inaccuracy in the exact weight of each cylinder.
Data considered: Quantity of LPG consumed in 2023: 33,945.22 kilograms.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Emission Source	Amount	Unit	tCO2	tCH_4	tN_2O	tCO2	Biogenic emissions (tCO2)
Holding	Liquefied Petroleum Gas (LPG)	33,945.22	kg	99,544	0.10	0.00	102.37	*
Total		**33,945.22**	**kg**	**99.54**	**0.10**	**0.00**	**102.37**	*

Fugitive Emissions

Fugitive emissions may arise from: (i) releases from the production, processing, transmission, storage and use of fuels and (ii) unintentional releases of substances that do not pass through chimneys, drains, exhaust pipes or other functionally equivalent opening, such as release of sulfur hexafluoride (SF_6) in electrical equipment, leakage of hydrofluorocarbons (HFCs) during the use of refrigeration and air conditioning equipment and leakage of methane (CH_4) in the transport of natural gas.

Definition: The gases used for refrigeration have different GWP values, which vary according to their compositions. The main refrigeration gases are HFCs (various).

Uncertainty: Inherent in the deviation allowed for scales.

Data considered: Quantity of refrigerant gases consumed in 2023: 1,445.60 kilograms.

Summary of GHG Emissions			
Unit	Emission Source	Amount	Total emissions
		kg	tCO2e
Holding	R-410A	1,126.40	2,166.63
	Sulfur hexafluoride (SF6)	218.60	5,137.10
	R-407C	68.60	111.42
	R-401A	32.00	0.57
Total		**1,445.60**	**7,415.73**

Non-Kyoto fugitive emissions: refer to greenhouse gas emissions that are not covered or regulated by the Kyoto Protocol. These emissions may occur unintentionally and may include various types of greenhouse gases that are not directly related to the specific obligations of the Kyoto Protocol. HCFC-22 (R22) is a fluid that is not controlled by the Kyoto Protocol or Paris Agreement and for this reason its emissions are separately accounted for and reported.

Uncertainty: Inherent in the deviation allowed for scales.
Data considered: Quantity of refrigerant gases consumed in 2023: 744.60 kilograms.

Summary of GHG Emissions			
Unit	Emission Source	Amount	Total emissions
		kg	tCO2e
Holding	HCFC-22	744.60	1,310.50
Total		**744.60**	**1,310.50**

GHG emissions resulting from CO_2 recharged in Fire Extinguishers

Definition: Carbon Dioxide (CO_2) is the gas used in some types of fire extinguishers, originating from extinguisher refills, which occur regularly.
Uncertainty: Inherent in the deviation allowed for CO_2 extinguishers.
Data considered: Quantity considered for 2023: 15,245 kilograms.

Summary of GHG Emissions			
Unit	Emission Source	Amount	Total emissions
		kg	tCO2e
Holding	Carbon dioxide (CO2)	15,245	15.25
Total		**15,245**	**15.25**

Change in Land Use

Change in land use occurs when conversions are carried out between different categories of use and which, consequently, can generate CO2 flows (emissions and removals). This category groups, within the scope of the Brazilian GHG Protocol Program , for example, emissions related to the deforestation of a forest area to build an industry; etc.

Deletions resulting from changes in land use

Definition: Calculation of change in land use carried out in the TESE tool (GVCES), considering data from the area and applied projects.
Uncertainty: Inherent in the report is the inaccuracy of the reported data.
Data considered: Vegetation suppression in a total area of 3,567 ha.
Source: Equatorial

Summary of GHG Emissions		
Emission Source	Quantities	Total emissions
	ha	tCO2e
Vegetation Suppression	3,567	362,039
Total		**362,039**

Effluent Treatment

Definition: Emissions arising from the treatment of effluents from the inventoried organization. Emissions vary depending on the physical-chemical characteristics of the effluents and the type of treatment applied to them.
Uncertainty: Inherent to the deviation in the measurement of the effluent flow.
Data considered: Quantity of liquid effluents generated in 2023: 1,095,901.35 m³.
Type of Treatment: Anaerobic lagoon followed by optional lagoon and aerobic treatment.

Source: Equatorial

Summary of GHG Emissions							
Unit	Emission Source	Type of treatment applied to the effluent	Amount	Emissions			Degradable organic component of the effluent
			m^3/year	tCH_4	tN_2O	tCO2e	kgBOD /m^3
Holding	Effluent treatment	Anaerobic lagoon + facultative lagoon	991,117.35	83.70	0.00	2,343.63	0.18
		Aerobic treatment	104,784.00	0.31	0.00	8.72	0.18
Total			**1,095,901.35**	**84.01**	**0.00**	**2,352.35**	*

Scope 2: Indirect emissions

To determine indirect GHG emissions resulting from electricity consumption, emission factors, equations, parameters and calculations were used in accordance with the GHG Protocol Tool Version 2024 0.2.

GHG emissions resulting from the consumption of Electric Energy imported from the distribution network

Uncertainty: Inherent in the electrical energy meter.
Data Considered: Quantity of Electricity imported from the distribution network in 2023: 54,268 MWh.

Source: Equatorial

Summary of GHG Emissions					
Unit	Emission Source	Amount	Unit	Emissions	Unit
Holding	Energy	54,268	MWh	2,109.5	tCO2e
Total		**54,268**	**MWh**	**2,109.5**	**tCO2e**

Data Considered: Amount of technical transmission and/or distribution losses on Electric Energy imported from the distribution network in 2023: 6,142,205.30 MWh.

Source: Equatorial

Summary of GHG Emissions					
Unit	Emission Source	Amount	Unit	Emissions	Unit
Holding	Technical T&D Losses	6,142,205.30	MWh	237,504,689	tCO2e
Total		**6,142,205.30**	**MWh**	**237,504.69**	**tCO2e**

Scope 3: Other indirect emissions

To determine other indirect GHG emissions by type of source, emission factors, equations, parameters and calculations were used in accordance with the GHG Protocol Tool – Version 2024 0.2.

The emission sources for which the tool does not perform the calculation (only presents spaces for reporting) were calculated in accordance with IPCC and UNFCCC methodologies and others. Explanations are presented under the items for each source (if applicable).

GHG emissions resulting from commuting from home to work - Road Transport

Uncertainty: Inaccuracy in the number of kilometers traveled.
Data considered:
Vehicle: Public Transport
Number of kilometers traveled in 2023: 25,661.87 km daily per section traveled by public transport.
Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Emission Source	Amount	Unit	tCO2	tCH_4	tN_2O	tCO2e	Biogenic emissions (tCO2)
Holding	Public transport bus	25,661.87	km	530.57	0.04	0.03	539.23	64.39
Total		**25,661.87**	**km**	**530.57**	**0.04**	**0.03**	**539.23**	**64.39**

Vehicle: Private Vehicles
Number of kilometers traveled in 2023: 181,157 km per day traveled in private vehicles.
Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Emission Source	Amount	Unit	tCO2	tCH_4	tN_2O	tCO2e	Biogenic emissions (tCO2)
Holding	Private vehicles	181,157.00	km	4,956.60	0.20	0.82	5,178.18	1,264.72
Total		**181,157.00**	**km**	**4,956.60**	**0.20**	**0.82**	**5,178.18**	**1,264.72**

GHG Emissions from Business Travel

Uncertainty: Inaccuracy in recording the sections flown.
Data considered: Air travel - Mileage flown in 2023: 3,725,085 km.
Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Source	Amount	Unit	tCO2	tCH_4	tN_2O	tCO2e	Biogenic emissions (tCO2)
Holding	Air travel	3,725,085	km	1,626.73	0.01	0.05	1,640.93	*
Total		**3,725,085.00**	**km**	**1,626.73**	**0.01**	**0.05**	**1,640.93**	*

Activities related to fuel and energy not included in Scopes 1 and 2

Uncertainty: Inherent in the electrical energy meter.
Data Considered: Amount of commercial transmission and/or distribution losses on Electric Energy imported from the distribution network and Import of energy from UTE in 2023: 5,795,775.78MWh.
Source: Equatorial

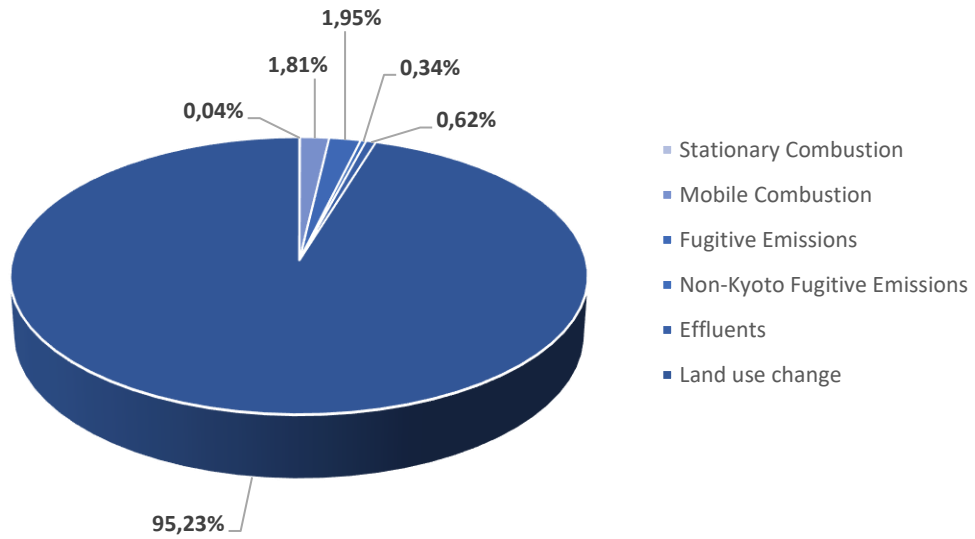
Summary of GHG Emissions				
Unit	Emission Source	Amount	Unit	Emissions
Holding	Non-technical losses	5,552,356.05	MWh	212,487.41
	Import of energy from UTE	243,419.73	MWh	147,996.73
Total		**5,795,775.78**	**MWh**	**360,484.15**

Summary of GHG missions

The combined emissions of the Equatorial Energia – Holding unit inventoried for Scope 1, 2 (Location Approach) and 3 for the year 2023 are presented in the tables below.

SCOPE 1	tCO_2e emissions	% of Emissions in the Category	% of Emissions over Total Scope 1	% of Emissions over the Sum of Scopes
Stationary Combustion				
Generators	164.22	100.00%	0.04%	0.02%
Total	**164.22**	**100.00%**	**0.04%**	**0.02%**
Mobile Combustion				
Ethanol Vehicles	0.32	0.00%	0.00%	0.00%
Forklifts	102.37	1.49%	0.03%	0.01%
Diesel Vehicles	4,784.83	69.59%	1.26%	0.48%
Gasoline Vehicles	1,988.42	28.92%	0.52%	0.20%
Total	**6,875.94**	**100.00%**	**1.81%**	**0.70%**
Land use change				
Vegetation suppression	362,039.31	100.00%	95.23%	36.66%
Total	**362,039.31**	**100.00%**	**95.23%**	**36.66%**
Fugitive Emissions				
CO2 extinguishers	15.25	0.21%	0.00%	0.00%
R-410A	2,166.63	29.16%	0.57%	0.22%
Sulfur Hexafluoride (SF6)	5,137.10	69.13%	1.35%	0.52%
R-401A	0.57	0.01%	0.00%	0.00%
R-407C	111.42	1.50%	0.03%	0.01%
Total	**7,430.97**	**100.00%**	**1.95%**	**0.75%**
Non-Kyoto Fugitive Emissions				
HCFC-22 (R22)	1,310.50	100.00%	0.34%	0.13%
Total	**1,310.50**	**100.00%**	**0.34%**	**0.13%**
Effluents				
ETE Effluent Treatment	2,352.35	100.00%	0.62%	0.24%
Total	**2,352.35**	**100.00%**	**0.62%**	**0.24%**
TOTAL SCOPE 1	**380,173.30**	*	**100.00%**	**38.49%**

Scope 1: Emissions by category -tCO_2e - 2023



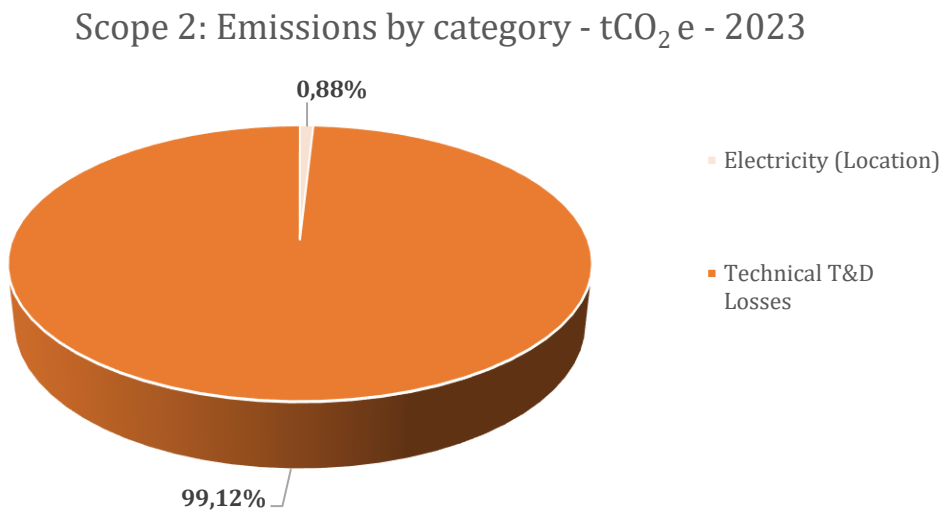
From the table and graph above, it can be seen that the Land Change and Use category is responsible for **95.23%** of scope 1 GHG emissions, followed by Fugitive Emissions with **1.95 %.** The Mobile Combustion category corresponds to around **1.81%** of the total emissions of this scope, Effluent treatment corresponds to **0.62%** , Non-Kyoto Fugitive Emissions **0.34%** and Stationary Combustion **0.04%.**

Scope 2: Indirect GHG Emissions – Location Approach and Technical T&D Losses.

The location-based approach is the model adopted by the Brazilian GHG Protocol Program for Scope 2 accounting, in which the average emissions for electricity generation that make up the National Interconnected System (SIN) are used as the emission factor.

In the location approach, all electricity consumed from the distribution network is reported, without any type of discount for the purchase of RECs or purchase certificates on the free market. The location approach reflects the real physical situation of the distribution network to which the Organization is connected.

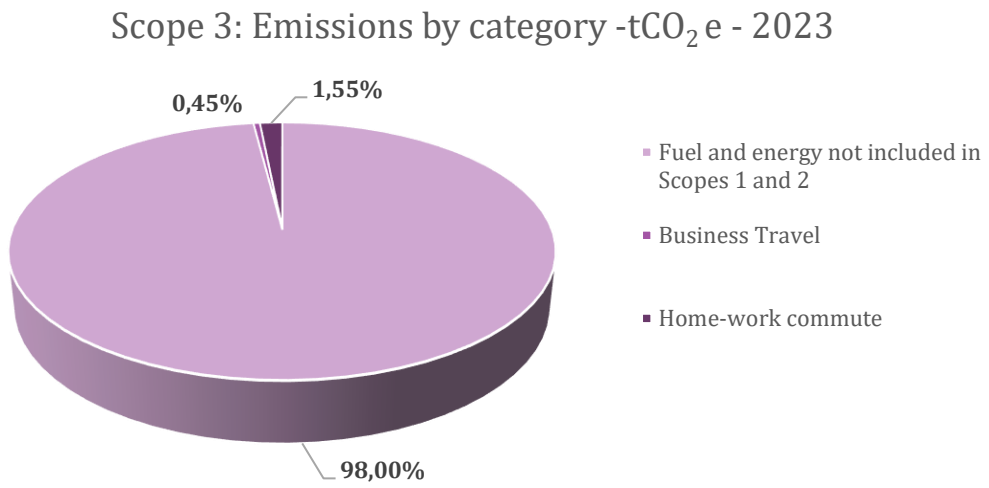
SCOPE 2	tCO_2e emissions	Consumption (MWh)	% of Emissions over Total Scope 2	% of Emissions over the Sum of Scopes
Purchase of Electricity				
Electricity (Location)	2,109.48	54,268.00	0.88%	0.21%
Transmission and Distribution				
Technical T&D Losses	237,504.69	6,142,205.30	99.12%	24.05%
TOTAL SCOPE 2	**239,614.17**	**6,196,473.30**	**100.00%**	**24.26%**



Scope 2, represented by the purchase of electricity by location, is responsible for **0.88%** of scope 2 emissions, being **2,109.48 tCO $_2$ e** . And emissions related to Technical T&D Losses represent **99.12%** of Scope 2 emissions, being **237,504.69 tCO $_2$e** .

Scope 3: Other indirect GHG emissions

SCOPE 3	tCO2e emissions	% of Emissions in the Category	% of Emissions over Total Scope 3	% of Emissions over the Sum of Scopes
Fuel and energy not included in Scopes 1 and 2				
Non-technical losses	212,487.41	58.95%	57.77%	21.51%
Import of energy from UTE	147,996.73	41.05%	40.23%	14.99%
Total	360,484.15	100.00%	98.00%	36.50%
Business Travel				
Air travel	1,640.93	100.00%	0.45%	0.17%
Total	1,640.93	100.00%	0.45%	0.17%
Home-work commute				
Private vehicles	5,178.18	90.57%	1.41%	0.52%
Public transport bus	539.23	9.43%	0.15%	0.05%
Total	5,717.41	100.00%	1.55%	0.58%
TOTAL SCOPE 3	**367,842.48**	*	**100.00%**	**37.24%**



From the table and graph above, it can be seen that the category Activities related to fuel and energy not included in Scopes 1 and 2 is responsible for **98%** of GHG emissions in scope 3, followed by Commuting to Work with **1.55 %.** The Business Travel category corresponds to around **0.45%** of the total emissions in this scope.

Total emissions

Scopes	Total emissions by Scopes -tCO_2e- 2023	% emission
Scope 1	380,173.30	38.49%
Scope 2	239,614.17	24.26%
Scope 3	367,842.48	37.24%
SUM OF EMISSIONS	987,629.95	100.00%

THE TOTAL RESULTS OF GREENHOUSE GAS EMISSIONS IN THIS REPORT PRESENT ACCURATE VALUES. THE SUMMARY OF THE GHG PROTOCOL CALCULATION WORKSHEET version 2024.0.2 MAY CONTAIN ROUNDING

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