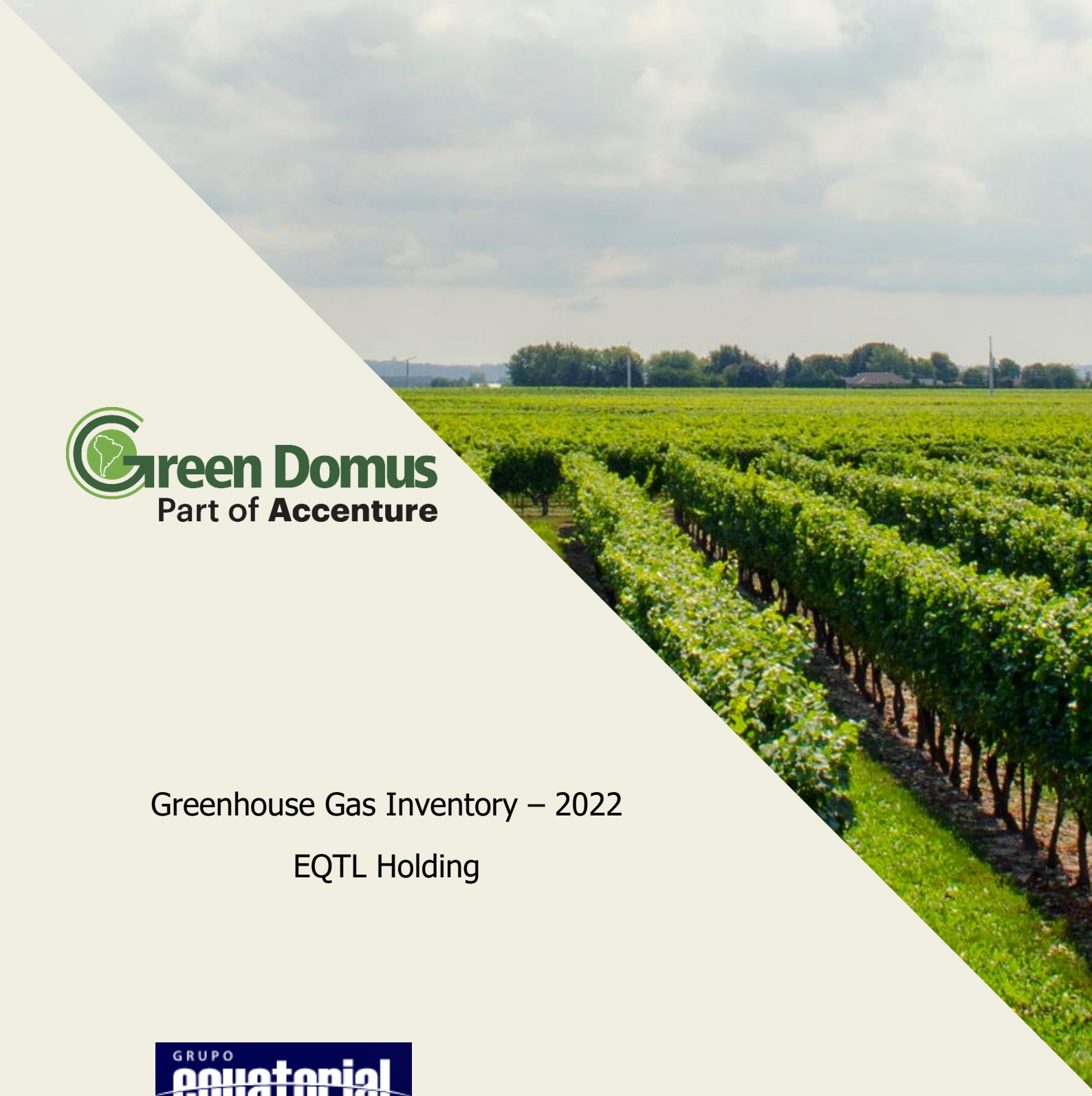


Greenhouse Gas Inventory – 2022

EQTL Holding

Version: V01

Drafted in 2023

Report prepared by

Renato de Jesus Rodrigues
renato.rodrigues@equatorialenergia.com.br

Felipe Bottini
Felipe@greendomus.com.br

Petterson Vale
petterson@greendomus.com.br

Caroline Cichoski
ccichoski@greendomus.com.br

Ana Carolina Godoy Silva
asilva@greendomus.com.br

Priscila Carlon
pcarlon@greendomus.com.br

Alessandra Paixão Khede
alessandra@greendomus.com.br

Glossary

Operational control - organizational boundary approach in which the organization accounts 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 the organization or controlled by it. This category includes emissions from burning fuels to generate electrical, thermal or mechanical energy, emissions from chemical processes and fugitive emissions.

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

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

GHG - Greenhouse Gases

GWP - 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).

iNDC - Intended Nationally Determined Contribution

UNFCCC - United National Framework Convention on Climate Change

Inmetro - National Institute of Metrology Standardization and Industrial Quality

IPCC - Intergovernmental Panel on Climate Change

CDM - Clean Development Mechanism MRV - Measurement, Reporting and Verification

Ownership interest - organizational boundary 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

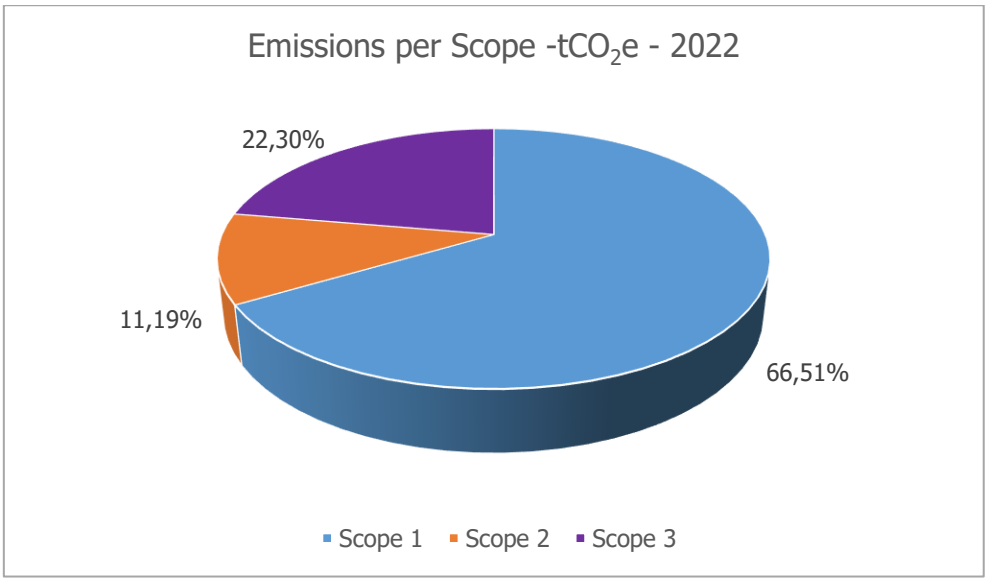
This inventory presents the GHG emissions of **Equatorial Holding**, occurred between January 1 and December 31, 20212

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

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

SCOPES	tCO_2e Emissions	% of Emissions over the sum of Scopes
Scope 1	1,181,375.87	66.51%
Scope 2 (Location)	198,780.06	11.19%
Scope 3	396,059.75	22.30%
Sum of Emissions	1,776,215.68	100.00%
Biogenic CO_2 emissions	1,730.30	

Note: CO_2 emissions from renewable fuels are reported separately as "biogenic CO_2 emissions".



Considering the approach by location, the conclusion reached is that the sources contained in scope 1 of Equatorial Holding account for most of the emissions with

1,181,375.87 tCO2e and represent **66.51%** of the sum of the scopes. Scope 2 (Location), which is represented by the purchase of electric power from the National Interconnected System (SIN), accounts for **11.19%** of the company's emissions with **198,780.06 tCO_2e**. Scope 3 accounts for **22.30%** of GHG emissions with **396,059.75 tCO_2e**. In the approach by location, all electricity consumed from the distribution grid is reported without any type of discount for purchasing RECs or certificates of purchase in the free market.

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

Table of Contents

Glossary 3
Executive Summary 4
Table of Contents 6
Introduction 7
Regulatory environment in Brazil 8
The organization 11
Organizational and operational boundaries 13
Workflow 15
Quantification methodologies 15
Selection of emission factors 16
Calculation of GHG emissions and removals 16
Uncertainties 17
Quality management 19
Selection and establishment of the base year 21
Identification of sources and sinks 21
Quantification of emissions 22
Scope 1: Direct emissions 22
Scope 2: Indirect emissions 29
Scope 3: Other indirect emissions 30
Summary of GHG emissions 33
References 39

Introduction

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

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

The appeal regarding the theme of climate change is the result of the significant increase in GHG emissions by human activity, which has raised the concentration of these gases to unprecedented levels in Earth's history, has intensified since the industrial revolution, mainly as a result of the burning of fossil fuels.

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

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

According to the latest United Nations Environment Programme (UNEP) Emissions Gap Report, global greenhouse gas emissions must drop by 7.6% per year between 2020 and 2030.

For this to be possible, the ambition of the measures and cuts projected in the national plans has to be five times higher. This means reducing emissions by 45% by 2030 and achieving neutrality by 2050 (UNEP).

In the national scenario, according to the NDC (2022), Brazil must reduce its emissions by 37% by 2025 and 50% by 2030, using the year 2005 as a base.

In this context, the global concern with this theme acquires an increasing prominence in international and national discussions. Studies on pricing, mitigation, adaptation, allocation of permits, caps (emission boundaries) and trade (certificate trade) are topics that directly impact the economy and have gained momentum as the problem worsens.

Therefore, organizations must address the issue to prepare their GHG emissions management strategies. For proper decision-making, it is essential to have quality information on corporate emissions, with consolidated methodologies and clear results.

The inventory of emissions is the activity that generates relevant information for the proper management of emissions. Therefore, its function is to provide 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, namely:

- 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

In line with its commitments towards the UNFCCC (United National Framework Convention on Climate Change), Brazil shall conduct the emissions reductions presented in the NDC (Nationally Determined Contribution). The legal framework around emissions is still being shaped, and it has entities and legislation at the national and state level, among which the following stand out:

Inter-Ministerial Committee on Climate Change and Green Growth – IMCCCGG

The IMCCC was created on October 25, 2021, through decree No. 10845. Its purpose is to set forth guidelines and articulate and coordinate the implementation of public actions and policies in the Country related to climate change.

National Policy on Climate Change - Law 12.187/2009

The National Policy on Climate Change (PNMC), created in December 2009 and regulated by Decree No. 7390/2010, and repealed by Decree No. 9578/2018, takes the first steps towards regulating the climate issue in Brazil. The PNMC aims, among other purposes, at reconciling socio-economic development with the protection of the climate system, reducing GHG emissions, implementing measures to promote adaptation to climate change, expanding protected areas and fostering reforestation, and encouraging the development of the Brazilian Emissions Reduction Market (MBRE).

São Paulo State Climate Change Policy - Law No. 13.798/2009

Its purposes are quite similar to those highlighted in the PNMC, encompassing the promotion of projects for the reduction of emissions, GHG sequestration or sinks, the establishment of manners of productive transition that generate behavior changes with a focus on reducing GHG emissions, incentive to 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 by Law No. 12114/2009 and regulated by Decree No. 7343/2010, the National Fund on Climate Change (FNMC) is linked to the Ministry of the Environment and the National Bank for Economic Development (BNDES), the purpose of which is to ensure resources to support projects or studies, and finance projects aimed at mitigating and adapting to climate change.

INEA

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

CETESB

On August 24, 2012, the Environmental Agency of the State of São Paulo (Companhia Ambiental do Estado de 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 Secretary of the Environment of the State of Paraná published Resolution No. 58, which provides for the implementation of the State Register of Greenhouse Gas Emissions, setting the procedures and criteria to be adopted for: Protocol of Intent, Declaration of Emissions, Inventory of emissions and granting of public recognition stamps.

ABRAVERI

The Brazilian Association of Companies for Verification and Certification of Greenhouse Gases Emissions Inventories and Socio-Environmental Reports (Associação Brasileira das Empresas de Verificação e Certificação de Inventários de Emissões de Gases de Efeito Estufa e Relatórios Socioambientais - ABRAVERI) was founded in June 2013, for the purposes of:

- Technically supporting the creation of public, governmental or private programs and records, emissions inventories, and suggesting practices to strengthen the MRV;
- Being a guiding entity to promote uniformity of information on socio-environmental emissions and reports and disclosure of the regulatory environment on the subject.
- Working with Municipal, State and Federal Programs related to carbon emissions and participating in groups, work committees and events to provide technical support for the success of policies related to reporting of emissions.
- Working with Municipal, State and Federal Programs related to carbon emissions and participating in groups, work committees and events to provide technical support for the success of policies related to reporting of emissions.

The organization

Equatorial Energia is the third-largest distribution group in the country in terms of the number of customers. Founded in 1999, the company has made significant advancements in consolidating the energy distribution sector in Brazil. Currently, it operates six concessionaires in the states of Maranhão, Pará, Piauí, Alagoas, Rio Grande do Sul, and Amapá, serving approximately 10 million customers in these regions. The company has diversified its operations into transmission, sanitation, and renewable energy sectors, making it the first multi-utilities company in the country. Equatorial Energia has also acquired 100% of the shares of Echoenergia S.A., marking its entry into the renewable energy sector and establishing itself as a key player in the integrated energy segment.

Equatorial Energia's areas of operation include:

- Energy Distribution: Through companies like 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: Managing nine operational assets and over 3,200 km of transmission lines, totaling more than R$ 1.3 billion in Annual Allowed Revenue (RAP).
- Renewables: Through Echoenergia, operating 10 operational parks with a total capacity of 1.2 GW and additional 1.2 GW in ongoing projects.
- Distributed Generation: Through E-nova, with a strong presence in the state of Maranhão.
- Sanitation: Through Companhia de Saneamento do Amapá, serving over 800,000 people.
- Energy Trading: Through Solenergias.
- Telecommunications: Through Equatorial Telecom, with a network spanning over 4,500 km.
- Services: Through Equatorial Serviços, providing support activities to the group's other businesses.

Equatorial Maranhão, the company's distribution arm, is the sole concessionaire in the state of Maranhão, covering an area of 332,000 km² and serving nearly 7 million people. Equatorial Maranhão serves approximately 2.5 million consumers across 217 municipalities, distributing 7,088 GWh of energy in 2021.

Equatorial Pará, the exclusive distributor in the state of Pará, covers an area of 1,248,000 km², serving 2.6 million customers in 144 municipalities. In 2021, the company distributed 13,311 GWh of energy, an increase of 529 GWh compared to 2020.

Equatorial Piauí, the sole concessionaire in the entire state of Piauí, serves around 1.3 million consumers in 224 municipalities, covering an area of 251,000 km². The company distributed 3,955 GWh of energy in 2021, representing a 7.1% growth in consumed energy volume compared to 2020.

In Alagoas, Equatorial acquired Equatorial Alagoas, serving approximately 1.2 million consumers in 102 municipalities within a concession area of 27,848 km². Energy distribution in 2021 increased by 3.4% compared to 2020.

The company also acquired the control of Companhia de Energia do Amapá (CEA), providing energy to 209,000 consumer units in 16 municipalities of the Amapá state.

Furthermore, Equatorial Energia entered the transmission segment in 2016 through the acquisition of eight lots, leading to the formation of Equatorial Transmissão. The company now operates eight transmission line and substation projects, covering approximately 2,500 km. Additionally, Equatorial fully owns Intesa, an operational line with an Annual Allowed Revenue (RAP) of approximately R$ 186 million in 2021.

Equatorial also holds the majority stake in Enova Instalação e Manutenção, a distributed generation company operating in the northeastern region of the country.

In February 2022, Equatorial Energia acquired Echoenergia, a company with 1.2 GW of wind energy generation capacity and 12 installed parks. The acquisition aligns with Equatorial's strategic goal to invest in renewable energy and create value for its shareholders, focusing on financial efficiency.

Equatorial Energia is also active in the sanitation sector through Companhia de Saneamento do Amapá (CSA), a Special Purpose Company controlled by Equatorial in conjunction with SAM Ambiental. In telecommunications, Equatorial

operates Equatorial Telecom, providing fiber optic services and secure telephony. Additionally, Equatorial Serviços offers solutions in various sectors in the states of Maranhão, Pará, Piauí, Alagoas, and Rio Grande do Sul, including call center services, sales, back-office activities, and customer solutions.

Organizational and operational boundaries

This inventory presents the GHG emissions of Equatorial Holding occurred between January 1 and December 31, 2022, where:

EQTL AL – Fernandes Lima Street, 3.349, Gruta de Lourdes – Maceió/AL

EQTL MA – Alameda A, Square SQS 100, Allotment Quitandinha Altos do Calhau – São Luís/MA

EQTL PI – João Cabral Street, 730 - Centro Sul – Teresina/PI

EQTL PA – Road Augusto Montenegro. km 8.5 - Coqueiro – Belém/PA

EQTL AMAPÁ CEA – Pe Julio Maria Lombaerd Avenue, nº 1900 – Macapá-AP

EQTL RS - Joaquim Porto Villanova Avenue ,201- Jardim do Salso – Porto Alegre-RS

EQTL Serviços – Alameda A, Square SQS, Allotment Quitandinha, Bairro Quitandinha – São Luís/MA

EQTL Telecom – Alameda A, QSquare SQS, Allotment Quitandinha, Bairro Quitandinha – São Luís/MA

EQTL Transmissão – Alameda A, QSquare SQS, Allotment Quitandinha, Bairro Quitandinha – São Luís/MA

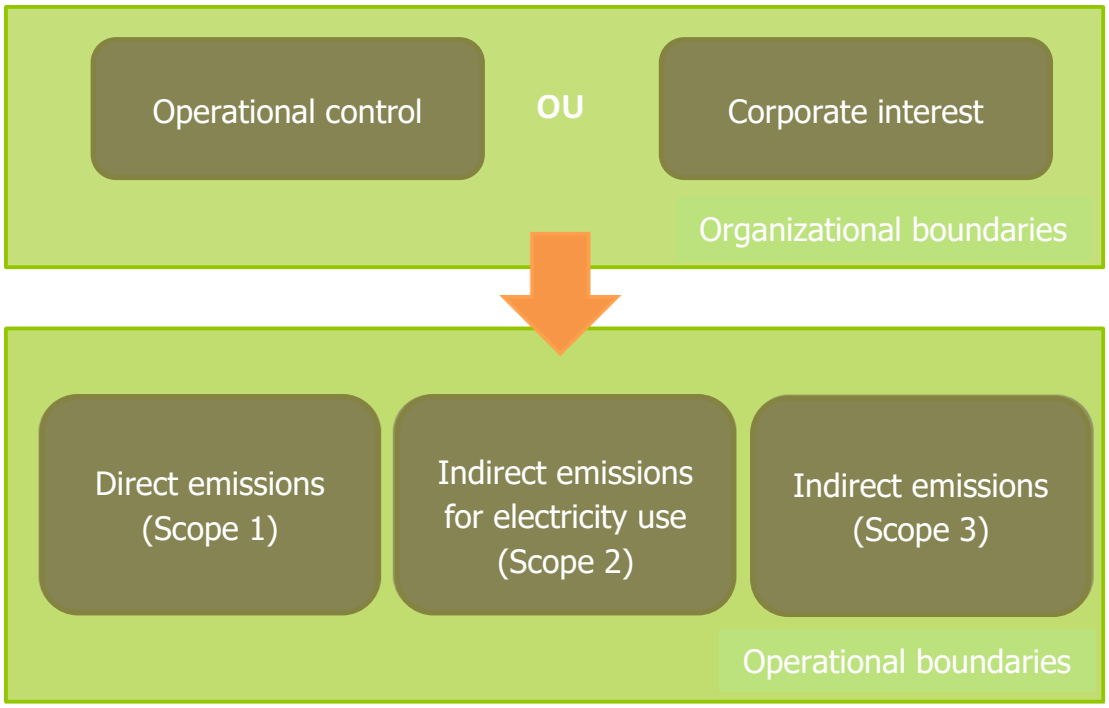
EQTL INTESA – Voluntários da Pátria Street, 126 - Botafogo, 22270-010 – Rio de Janeiro/RJ

EQTL Echoenergia – Amintas Barros, 3700 - Torre Business, 1607/1608 - Lagoa Nova, Natal/RN

EQTL Companhia de Saneamento do Amapá (CSA) – Padre Júlio Maria Lombaerd Avenue, Número 1900, CEP 68.906-000, Bairro central – Macapá/AP

EQTL E-nova –Engenharia Street, 10 – São Luís/MA

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



Organizational boundaries:

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

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

Operational boundaries:

Scope 1: GHG emissions from sources belonging to the organization or controlled by it. 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 from renewable fuels are quantified and reported separately.

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

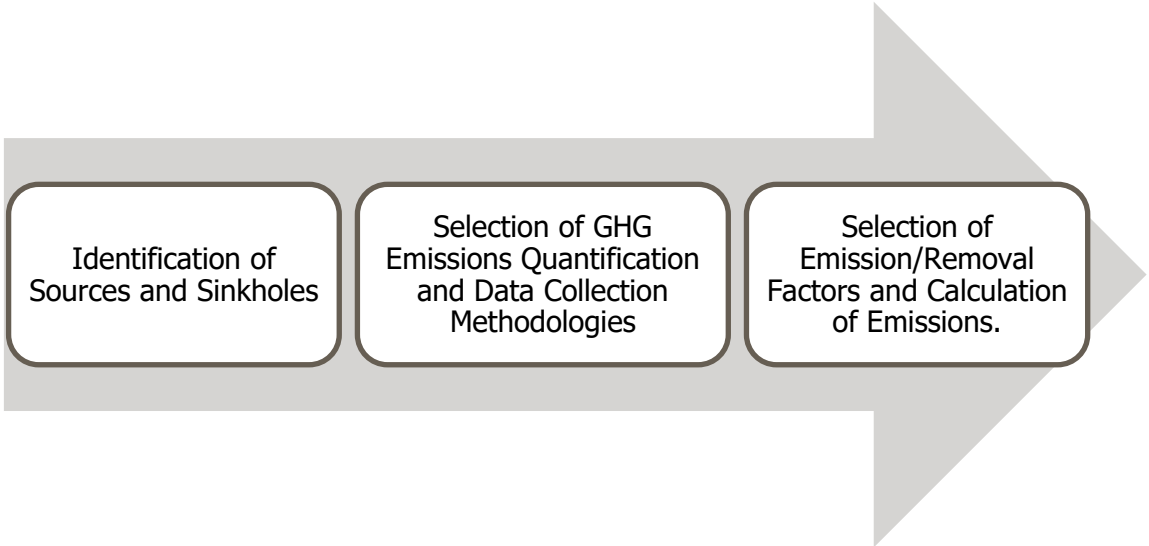
Scope 3: refers to indirect emissions, not associated with imported energy, which are related to the organization's activities but arising from sources that belong to or are controlled by other organizations.

To carry out the Equatorial inventory, the following boundaries were considered:

Organizational boundary	Operational boundary
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 Gases Emissions.
- Brazilian GHG Protocol Program Calculation Tool - Version v2023 0.2.
- Calculation Tool "tese_ferramenta-de-calculo_v0-1_v2" – Land Use Change.

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 emission factors and parameters. If this occurs, it will be referenced in the calculation section in which they were used.

Calculation of GHG emissions and removals

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 displacement of solid waste, anaerobic treatment of effluent and emissions due to the use of fertilizers, the IPCC equations apply;
- For fugitive emissions, qualification is based on the global warming potentials of each gas;
- For air travel, the provisions of DEFRA are used.
- For emissions from electricity consumption, the emission factor of the national distribution grid is used.

Thus, each source has a specific treatment for the quantification of emissions documented therefrom.

Uncertainties

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

The analysis of these uncertainties allows the understanding of the existence of relevant quantification risk. It is essential to ensure adherence of the emissions inventory to the desired materiality levels.

The following analysis of uncertainties conducted 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 per source of emissions.

- **Lack of Integrity:** It occurs in the event of unavailability of data, either due to failure to recognize the process or lack of measurement methods. Usually, a lack of integrity can lead to a trend 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. Using models to estimate GHG emissions and removals may present uncertainties as a trend or random error.
- **Lack of Data:** In some situations, there is simply not enough data available to characterize a particular removal or emission. In these situations, it is customary to use surrogate data from similar categories or perform interpolation or extrapolation to estimate missing data.
- **Lack of Data Representativeness:** It happens when the available data does not fully correspond to the actual GHG emission/removal conditions.
- **Random Statistical Sampling Error:** This source of uncertainty is associated with the fact that it is a random sample of finite size, which

usually depends on the variance of the population from which the sample has been drawn and the size of the sample itself.

- **Measurement Uncertainties:** It can be random or systemic; result from archiving and transmission of information; the resolution of finite instruments; the inaccuracy of measurement standard values and material references; the inaccuracy of the values of constants and other parameters obtained from external sources, used in mathematical reduction; approximations and assumptions incorporated into measurement methods and estimation procedures; and/or variations in repeated observations of emission or removal, or associated variable under apparently identical conditions.
- **Incorrect Presentation or Classification Errors:** The uncertainties are, in this case, due to wrong, incomplete and confusing definitions of emissions or removals.
- **Lost Data:** When a measurement is attempted, however, no values are available.

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

Analysis of uncertainties

Nature of the Uncertainty	Origin of the Uncertainty	Analysis
Emission factors	Construction of factors	They are inherent to the emission factors used in the calculation and accountability tool of the agents who publish them.
Meters	Scales	The inherent uncertainty is the deviation allowed by the INMETRO for scales (±2%).
	Gas Pumps	The imprecision in fuel pumps is determined by the INMETRO (±0.5%).
	Cylinders	The imprecision in the exact weight of each cylinder is determined by the Brazilian Institute of Weights and Measurements - IPEM (±2.3%).

Nature of the Uncertainty	Origin of the Uncertainty	Analysis
	Fire extinguishers	Recharging should only be made with the nominal load of the extinguishing agent, with a load tolerance of 5% less (INMETRO - Ordinance No. 005, of January 04, 2011).
	Wastewater flow meters	The wastewater flow is determined through flow meters with an accuracy of ±1%, and the other characteristics are obtained through accurate specific meters, which should be periodically calibrated to avoid loss of acuity.
	Natural gas meters	The accuracy of the natural gas consumption measuring instruments is set at ±1.5% (INMETRO ANP Ordinance No. 1 of June 19, 2000).
	Electricity meters	The accuracy of measurements is controlled by both the user and government agencies. Therefore, it is expected that, within these parameters, uncertainties are rather small – less than 3.5% (ANEEL).
Records	Data Collection and Transcription	The organization's records are subject to recurring audits so that any deviations may be considered to be revised in a timely manner so as to remain accurate and complete for the emissions inventory.

Quality management

Management of GHG information

Green Domus' conduct is to guide the organization making the inventory, to make sure that GHG information is managed in such a way as to promote:

- The relevance of the inventory, selecting the sources, sinks, and GHG reservoir, as well as data and methodologies appropriate to the needs of the intended user;

- The integrity of the inventory, including the relevant GHG emissions and removals, and documenting any exclusions and their rationale;
- Consistency to allow meaningful comparisons of GHG information;
- Accuracy, mitigating uncertainties and asymmetries within the principle of reasonableness; and
- Transparency, disclosing sufficient and appropriate information related to GHGs, to allow the user to make decisions based on quality information.

Green Domus' GHG information management procedures are the following:

- Definition and critical review 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 review of organizational boundaries;
- Identification and critical review of GHG sources and sinks;
- Selection and critical review of quantification methodology, including GHG activity data and GHG emission and removal factors that are consistent with the intended use of the inventory;
- Critical review of the application of quantification methodologies to ensure consistency across multiple installations;

Procedures, document retention and record keeping

The organization making the inventory attests that the GHG information management procedures consider:

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

The organization making the inventory undertakes to maintain the supporting documentation for the planning, development and maintenance of the GHG inventory to enable any independent check thereof.

Selection and establishment of the base year

The organization shall establish a historical base year for GHG emissions and removals for the purpose of making comparisons or meeting GHG program determinations or other intended uses of the Emissions Inventory.

Equatorial adopted its first GHG inventory period of 2021, which is the 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 organization making the inventory.

Scope	Category	Emission source
Scope 1	Stationary Combustion	Diesel Oil
	Mobile Combustion	Liquefied Petroleum Gas (LPG)
		Diesel Oil
		Automotive Gasoline
		Hydrous Ethanol
	Fugitive emissions	Carbon Dioxide
		Hexafluoride of Sulfur
		R-401A
		R-407A
		R-407C
		R-410A
	Fugitive emissions not Kyoto	HCFC-22
	Land use change	Suppression of vegetation
	Effluents	Liquid effluents

Scope	Category	Emission source
Scope 2	Electric power import	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
		Thermal energy
	Business trips	Air travel
	Commuting	Public transport
		Private transport

Quantification of emissions

The amounts used to calculate GHG emissions referring to each of the sources considered were obtained or calculated based on the records of the organization.

Scope 1: Direct emissions

To determine direct GHG emissions per type of source, emission factors, equations, parameters and calculations were used in accordance with the standard ABNT NBR ISO 14064:2007 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 the calculation of emissions was provided by Equatorial corporate department.

GHG emissions from burning Diesel Oil

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

Uncertainty: Inaccuracy in fuel pumps.

Data considered: Amount of Diesel Oil consumed in 2022: 5,714.80 liters.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Source of Emission	Quantity	Unit	tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO_2 Emissions (tCO_2)
EQTL Holding	Diesel oil (pure)	5,143.32	Liters	13.53	0.00	0.00	13.58	*
	Biodiesel (B100)	571.48		*	0.00	0.00	0.00	1.40
Total		**5,714.80**	**Liters**	**13.53**	**0.00**	**0.00**	**13.58**	**1.40**

Note: The diesel oil marketed in Brazil has a biodiesel component. CO_2 emissions from biodiesel (renewables), added to diesel oil, are reported separately as biogenic CO_2 emissions.

Mobile combustion

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

GHG emissions from burning Diesel Oil

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

Uncertainty: Inaccuracy in fuel pumps.

Data considered: Amount of Diesel Oil consumed in 2022: 2,247,605.23 liters.

Source: Equatorial

Summary of GHG Emissions			
	Quantity	Unit	Emissions

Unit	Source of Emission			tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO_2 emissions (tCO_2)
EQTL Holding	Diesel oil (pure)	2,022,844.71	Liters	5,265.46	0.28	0.28	5,347.57	*
	Biodiesel (B100)	224,760.523		*	0.07	0.00	3.27	546.39
Total		**2,247,605.23**	**Liters**	**5,265.46**	**0.35**	**0.28**	**5,350.84**	**546.39**

Note: The diesel oil marketed in Brazil has a biodiesel component. CO_2 emissions from biodiesel (renewables), added to diesel oil, are reported separately as biogenic CO_2 emissions.

GHG emissions from burning Gasoline

Definition: Gasoline is a mixture of hydrocarbons, being a fossil fuel derived from crude oil and produced through refining processes, generally done by distilling petroleum.

Uncertainty: Inaccuracy in fuel pumps.

Data considered: Amount of Automotive Gasoline consumed in 2022: 1,185,284.04 liters.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Source of Emission	Quantity	Unit	tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO_2 emissions (tCO_2)
EQTL Holding	Automotive Gasoline	865,257.35	Liters	1,913.95	0.70	0.22	1,992.78	*
	Anhydrous Ethanol	320,026.69	Liters	*	0.07	0.00	3.14	488.36
Total		**1,185,284.04**	**Liters**	**1,913.95**	**0.77**	**0.23**	**1,995.92**	**488.36**

GHG emissions from burning Hydrous Ethanol

Definition: Ethanol (ethyl alcohol) is an organic substance obtained from the fermentation of sugars, hydration of ethylene, or reduction to acetaldehyde. In Brazil, sugarcane is used for ethanol production.

Uncertainty: Inaccuracy in fuel pumps.

Data considered: Amount of Hydrous Ethanol consumed in 2022: 6,893.86 liters.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Source of Emission	Quantity	Unit	tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO_2 emissions (tCO_2)
EQTL Holding	Hydrous Ethanol	6,893.86	Liters	*	0.00	0.00	0.10	10.04
Total		**6,893.86**	**Liters**	**0.00**	**0.00**	**0.00**	**0.10**	**10.04**

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

Definition: Liquefied Petroleum Gas (LPG) consists of a gaseous mixture of hydrocarbons obtained from natural gas from underground reserves or the oil refining process. It 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 2021: 35,280.00 kilograms.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Source of Emission	Quantity	Unit	tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO_2 emissions (tCO_2)

EQTL Holding	Liquefied Petroleum Gas (LPG)	35,280.00	kg	103.46	0.10	0.00	106.39	*
Total		**35,280.00**	**kg**	**103.46**	**0.10**	**0.00**	**106.39**	*

Fugitive emissions

Fugitive emissions can be due to: (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 the release of sulfur hexafluoride (SF6) in electrical equipment, leakage of hydrofluorocarbons (HFCs) during the use of refrigeration and air conditioning equipment, and leakage of methane (CH4) in the transport of natural gas.

GHG Emissions from Refrigeration Gases

Definition: The gases used for refrigeration have different GWP values, which vary according to their composition.

Uncertainty: Inherent to the allowable deviation for scales.

Data considered: The amount of refrigeration gas consumed in 2022: 370.00 kilograms of SF6; 7.,00 kilograms of R-401A, 213.44 kilograms of R-407A, 20.00 kilograms of R-407C, 612.00 kilograms of R-410A and 502.68 kilograms of R-22.

Source: Equatorial

Summary of GHG Emissions			
Unit	Source of Emission	Quantity	Total Emissions
		kg	tCO_2e
EQTL Holding	R-401A	78.00	1.40
EQTL Holding	R-407A	213.44	410.53
EQTL Holding	R-407C	20.00	32.48
EQTL Holding	R-410A	612.00	1,177.18
EQTL Holding	Hexafluoride of Sulfur (SF6)	370.00	8,695.00
EQTL Holding	HCFC-22 (R-22)*	502.68	884.72
Total		**1,796.12**	**11,201.31**

* Non-Kyoto emission

GHG emissions from CO_2 recharged in Fire Extinguishers

Definition: Carbon Dioxide (CO_2) is the gas used in some types of fire extinguishers, which comes from the regular recharge of extinguishers.

Uncertainty: Inherent to the allowable diversion for CO_2 extinguishers.

Data considered: Quantity considered for 2022: 8,767.00 kilograms.

Source: Equatorial

Summary of GHG Emissions			
Unit	Source of Emission	Quantity	Total Emissions
		kg	tCO_2e
EQTL Holding	Carbon dioxide (CO_2)	8,767.00	8.77
Total		**8,767.00**	**8.77**

Land Use Change

Land use change occurs when conversions between different usage categories take place, which can consequently generate CO2 fluxes (emissions and removals). Within the Brazilian GHG Protocol Program, for example, this category encompasses emissions related to deforestation of a forest area for the construction of an industry, etc.

GHG emissions from Vegetation Suppression in Land Use Change

Definition: Removals and Emissions calculation performed using TESE tool (GVCes), taking into account area's data and implemented projects.

Uncertainty: Inherent to the imprecision of the reported data.

Data considered: Total area of suppressed vegetation for 2022: 1,840.63 ha.

Source: Equatorial

Summary of GHG Emissions			
Unit	Source of Emission	Quantity	Emissions
		ha	tCO_2e
EQTL Holding	Suppression of the vegetation	1,840.63	1,159,870.90

Effluents

GHG emissions from Liquid Effluents treatment

Definition: Emissions resulting from the treatment of effluents by the inventoried organization. The emissions vary according to the physicochemical characteristics of the effluents and the type of treatment applied to them.

Uncertainty: Inherent to the imprecision in effluent flow measurement

Data considered: Amount of liquid effluents generated in 2022: 1,081,036.80 m^3.

Treatment: Anaerobic lagoon followed by facultative pond and aerobic treatment.

Source: Equatorial

Summary of GHG Emissions							
Unit	Source of Emission	Treatment applied to the effluent	Quantity	Emissions			Biodegradable organic component of the effluent
			m^3/year	tCH_4	tN_2O	tCO_2e	Kg BDO/m^3
EQTL Holding	Wastewater treatment	Anaerobic lagoon + facultative pond	953,856.00	100.18	0.00	2,804.98	0.18
EQTL Holding	Wastewater treatment	Aerobic treatment (activated sludge, aerated lagoon, etc.)	127,180.80	0.80	0.00	23.08	0.18
Total			**1,081,036.80**	**100.98**	**0.00**	**2,828.05**	**-**

Scope 2: Indirect emissions

To determine the indirect GHG emissions resulting from the consumption of electricity, emission factors, equations, parameters and calculations were used according to the GHG Protocol Tool - Version v2023 0.2.

GHG emissions from the consumption of Electric Power imported from the distribution grid

Uncertainty: Inherent to the Electric Power meter.

Data considered: Quantity of Electric Power imported from the distribution grid in 2022: 56,882.13 MWh.

Source: Equatorial

Summary of GHG Emissions				
Unit	Source of Emission	Quantity	Unit	Emissions tCO_2e
EQTL Holding	National Interconnected Brazilian System	56,882.13	MWh	2,422.93
Total		**56,882.13**	**MWh**	**2,422.93**

Data considered: Quantity of technical losses in transmission and/or distribution of imported electricity from the distribution network in 2022: 4,609,804.15 MWh.

Source: Equatorial

Summary of GHG Emissions				
Unit	Source of Emission	Quantity	Unit	Emissions tCO_2e
EQTL Holding	Techinical T&D Losses	4,609,804.15	MWh	196,357.14
Total		**4,609,804.15**	**MWh**	**196,357.14**

Scope 3: Other indirect emissions

To determine the other indirect GHG emissions per source type, emission factors, equations, parameters and calculations were used according to the GHG Protocol Tool - Version v2023 0.2.

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

GHG Emissions from Commuting

Uncertainty: Inaccuracy in total kilometers driven.

Data considered:

Vehicle - Public transportation

Average distance travelled per day, considering 915 kilometers /day and 1,677 employees.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Source of Emission	Quantity	Unit	tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO_2 emissions (tCO_2)
EQTL Holding	Public transport (bus)	915.00	km	614.88	0.04	0.03	624.85	63.81
Total		**915.00**	**km**	**614.88**	**0.04**	**0.03**	**624.85**	**63.81**

Vehicle – Private vehicles

Average distance travelled in 2022: 95,962.66 kilometers in private vehicles.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Source of Emission	Quantity	Unit	tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO2 emissions (tCO2)
EQTL Holding	Private vehicles	95,962.66	km	2,431.02	0.09	0.39	2,536.44	620.30
Total		**95,962.66**	**km**	**2,431.02**	**0.09**	**0.39**	**2,536.44**	**620.30**

GHG Emissions from Business Trips

Uncertainty: Inaccuracy in total kilometers driven.

Data considered: Kilometers flown in the year 2022: 12,604,332.42 km.

Source: Equatorial

Summary of GHG Emissions								
				Emissions				
Unit	Fonte	Quantity	Unit	tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO_2 emissions (tCO_2)
EQTL Holding	Distance	12,604,332.42	km	1,370.79	192.98	0.04	1,380.96	*
Total		**12,604,332.42**	**km**	**1,370.79**	**192.98**	**0.04**	**1,380.96**	*

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

Uncertainty: Inherent to the electric energy meter

Data considered: Quantity of commercial losses in transmission and/or distribution of imported electricity from the distribution grid in 2022: 5,220,428.89 MWh.

Source: Equatorial

Summary of GHG Emissions				
Unit	Source of Emission	Quantity	Unit	Emissions
EQTL Holding	Non-technical losses	5,220,428.89	MWh	222,367.03
Total		**5,220,428.89**	**MWh**	**222,367.03**

Data considered: Quantity of Electricity Purchased from Thermal Power Plants in 2022: 278,212.63 MWh

Source: Equatorial

Summary of GHG Emissions								
Unit	Source of Emission	Quantity	Unit	Emissions				
				tCO_2	tCH_4	tN_2O	tCO_2e	Biogenic CO_2 emissions (tCO_2)
EQTL Holding	Thermal plants power	278,212.63	MWh	0.00	0.47	0.06	30.15	*
				168,597.33	6.83	1.37	169,150.47	0.0
Total		**278,212.63**	**MWh**	**168,597.33**	**7.29**	**1.43**	**169,180.61**	**0.0**

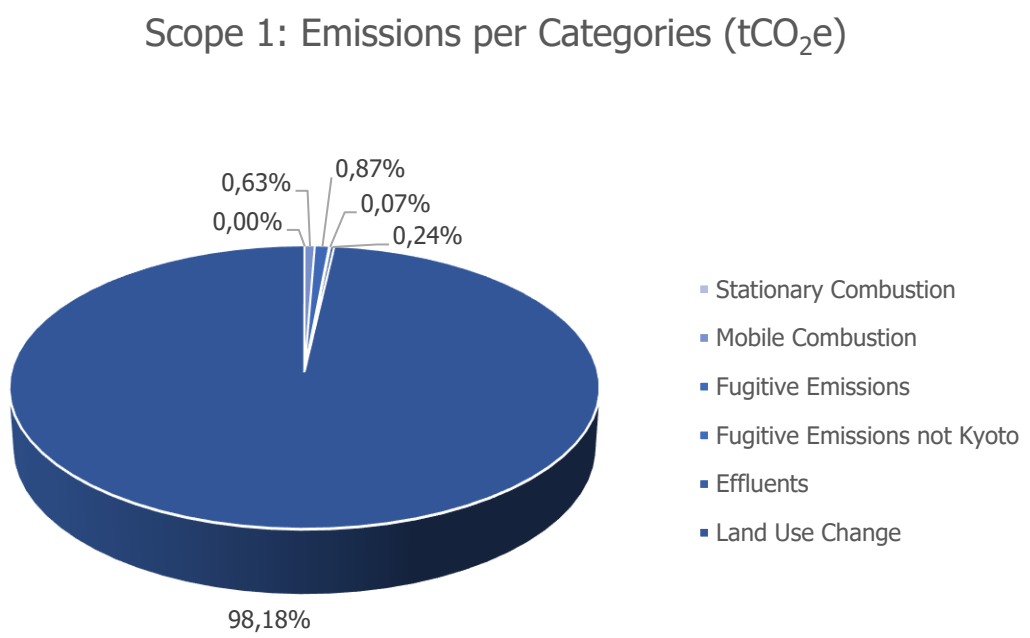
Summary of GHG emissions

Scope 1: Direct GHG emission

Scope 1	Emissions tCO_2e	% of Emissions in the Category	% of Emissions over the Total Scope 1	% of Emissions over the sum of the Scopes
Stationary Combustion				
Generators	13.58	100.00%	0.00%	0.00%
Total	**13.58**	**100.00%**	**0.00%**	**0.00%**
Mobile Combustion				
Diesel oil vehicle	5,387.63	72.29%	0.46%	0.30%
Gasoline vehicle	1,959.14	26.29%	0.17%	0.11%
Forklift	106.39	1.43%	0.01%	0.01%
Ethanol vehicle	0.10	0.00%	0.00%	0.00%
Total	**7,453.26**	**100.00%**	**0.63%**	**0.42%**
Land Use Change				
Vegetation suppression	1,159,870.90	100.00%	98.18%	65.30%
Total	**1,159,870.90**	**100.00%**	**98.18%**	**65.30%**
Fugitive Emissions				
Hexafluoride of Sulfur (SF_6)	8,695.00	84.21%	0.74%	0.49%
R-410A	1,177.18	11.40%	0.10%	0.07%
R-407A	410.53	3.98%	0.03%	0.02%
R-407C	32.48	0.31%	0.00%	0.00%
Fire Extinguishers with CO_2	8.77	0.08%	0.00%	0.00%
R-401A	1.40	0.01%	0.00%	0.00%
Total	**10,325.37**	**100.00%**	**0.87%**	**0.58%**
Fugitive Emissions not Kyoto				
HCFC-22 (R22)	884.72	100.00%	0.07%	0.05%
Total	**884.72**	**100.00%**	**0.07%**	**0.05%**
Effluents				
Effluent treatment	2,828.05	100.00%	0.24%	0.16%

Total	**2,828.05**	**100.00%**	**0.24%**	**0.16%**

TOTAL SCOPE 1	**1,181,375.87**	*****	**100.00%**	**66.51%**



From the table and chart above, the Land Use Change category accounts for **98.18%** of Scope 1 GHG emissions, followed by Fugitive Emissions, with **0.87%**, and Mobile Emissions with **0.63%.** Next, the Effluent category stands out with **0.24%** of the Scope 1 GHG emissions, Fugitive Emissions not Kyoto **0.07%** and Stationary Combustion **0.00%.**

Scope 2: Indirect GHG Emissions - Location Approach

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 an emission factor.

In the approach by location, all electricity consumed from the distribution grid is reported without any type of discount for the purchase of RECs or certificate of purchase in the free market. The approach by location reflects the actual physical situation of the distribution grid to which the Organization is connected.

SCOPE 2	tCO_2e emissions	Consumption (MWh)	% Emissions over the Total Scope	% Emissions over the Sum of Scopes
Electric Power (location approach)				
SIN (location approach)	2,422.93	56,882.13	1.22%	0.14%
Transmission and Distribution				
Technical T&D Losses	196,357.14	4,609,804.15	98.78%	11.05%
TOTAL SCOPE 2	**198,780.06**	**4,666,686.27**	**100%**	**11.19%**

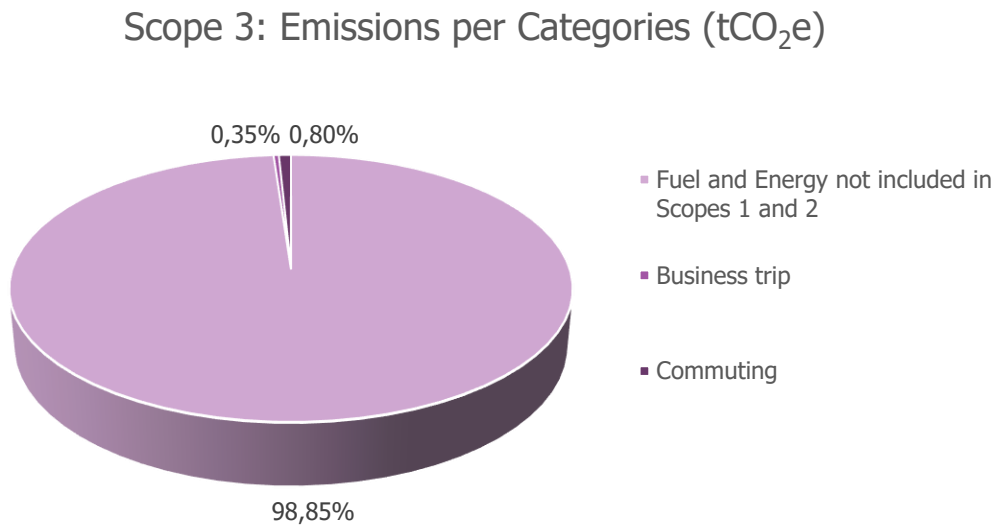
** National Interconnected Brazilian System*

Scope 2, which is represented by the purchase of electric power, with the approach by location and Technical Losses on Transmission and Distribution accounts for **11.19%** of the company's emissions with **198,780.06 tCO_2e**.

Scope 3: Other indirect GHG emissions

Scope 3	Emissions tCO_2e	% of Emissions in the Category	% of Emissions over the Scope	% of Emissions over the sum of the Scopes
Fuel and energy not included in Scopes 1 and 2				
Non-Technical Losses	222,367.03	56.80%	56.14%	12.52%
Thermal Energy	169,150.47	43.20%	42.71%	9.52%
Total	391,517.50	100.00%	98.85%	22.04%
Business trips				

Air travel	1,380.96	100.00%	0.35%	0.08%
Total	1,380.96	100.00%	0.35%	0.08%
Commuting				
Private vehicle	2,536.44	80.23%	0.64%	0.14%
Public transport	624.85	19.77%	0.16%	0.04%
Total	3,161.29	100.00%	0.80%	0.18%
TOTAL SCOPE 3	**396,059.75**	*	**100.00%**	**22.30%**



From the table and chart above, it can be seen that the category Fuel and Energy not included in Scopes 1 and 2 accounts for **98.85%** of scope 3 GHG emissions. Next, the category Commuting stands out, with **0.80%** of GHG emissions. The category Business Trip accounts for **0.35%** of GHG emissions.

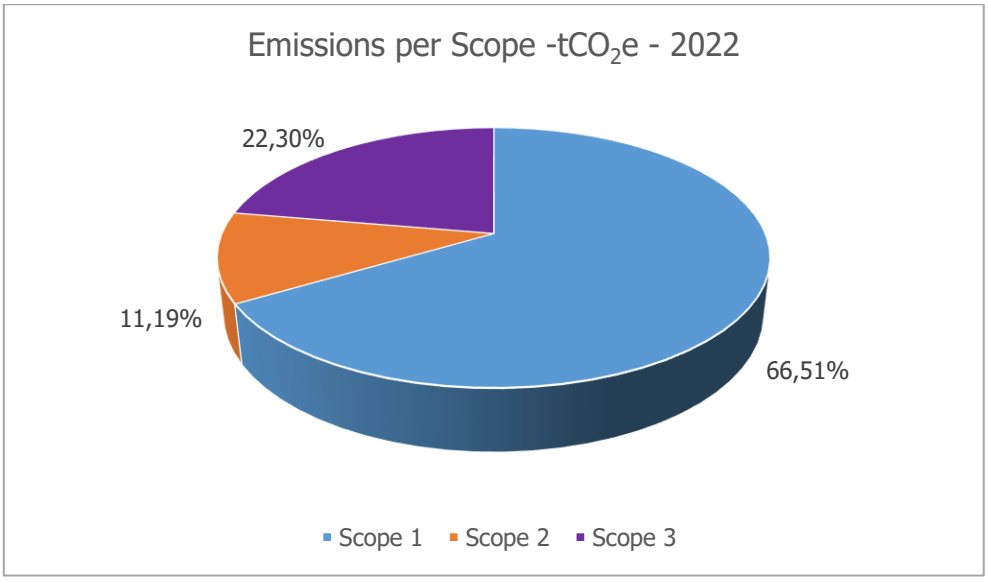
Total emissions

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

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

SCOPES	tCO_2e Emissions	% of Emissions over the sum of Scopes
Scope 1	1,181,375.87	66.51%
Scope 2 (Location)	198,780.06	11.19%
Scope 3	396,059.75	22.30%
Sum of Emissions	1,776,215.68	100.00%
Biogenic CO_2 emissions	1,730.30	

Note: CO_2 emissions from renewable fuels are reported separately as "biogenic CO_2 emissions".



Considering the approach by location, the conclusion reached is that the sources contained in scope 1 of Equatorial Holding account for most of the emissions with **1,181,375.87 tCO2e** and represent **66.51%** of the sum of the scopes. Scope 2 (Location), which is represented by the purchase of electric power from the

National Interconnected System (SIN), accounts for **11.19%** of the company's emissions with **198,780.06 tCO_2e**. Scope 3 accounts for **22.30%** of GHG emissions with **396,059.75 tCO_2e**. In the approach by location, all electricity consumed from the distribution grid is reported without any type of discount for purchasing RECs or certificates of purchase in the free market.

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

THE TOTAL RESULTS OF GREENHOUSE GASES EMISSIONS IN THIS REPORT PRESENT ACCURATE VALUES. THE SUMMARY OF THE CALCULATION WORKSHEET FOR THE GHG PROTOCOL version 2022 1.1 MAY CONTAIN ROUNDINGS

References

National Agency of Petroleum, Natural Gas and Biofuels - ANP 2015. http://www.anp.gov.br/

AMS III.E. "Avoidance of methane production from decay of biomass through controlled combustion".

Department for Environment Food & Rural Affairs – DEFRA.

Ministry of Mines and Energy. National Energy Balance, 2015. https://ben.epe.gov.br/downloads/Relatorio_Final_BEN_2015.pdf

Guidelines for Measuring and Managing CO_2 Emission from Freight Transport Operations, 2011. http://www.cefic.org

Greenhouse Gas Protocol – Programa Brasileiro GHG Protocol http://www.ghgprotocolbrasil.com.br/

International Civil Aviation Organization – ICAO
http://www.icao.int/Pages/default.aspx

Refinement to the 2006 IPCC Guidelines on National Greenhouse Gas Inventories, 2019. https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/

Ministry of Science and Technology - MCT, 2010. 2nd Brazilian Inventory of GHG Emissions - Bottom-Up. Methodological Exhibit

Ministry of Science and Technology - MCT. Average Emission Factor of the Brazilian National Interconnected System. http://www.mct.gov.br/index.php/content/view/74694.html

NDC Implementation Plan for Energy, Agriculture, Forestry; Alignment of SDG with NDC Targets - Paris Agreement Ratification, 2016. https://www.ndcs.undp.org/content/ndc-support-programme/en/home/our-work/geographic/latin-america-and-caribbean/brazil.html

United Nations Environment Programme – Emissions Gap Report 2019. https://wedocs.unep.org/bitstream/handle/20.500.11822/30797/EGR2019.pdf?sequence=1&isAllowed=y

United Nations Framework Convention on Climate Change – UNFCCC
http://unfccc.int/

United Nations Framework Convention on Climate Change – UNFCCC. A/R Methodological tool. "Estimation of direct nitrous oxide emission from nitrogen fertilization" (version 1).

Green Domus
Part of Accenture

+55 (11) 5093-4854

contato@greendomus.com.br

www.greendomus.com.br

Sustainability Services at Accenture