2025

BASE YEAR 2024

GREENHOUSE GASES EMISSION INVENTORY

CEMIG

COMPANHIA ENERGÉTICA
DE MINAS GERAIS

Corporate GHG emissions inventory - CEMIG 2025

Customer	Companhia Energética de Minas Gerais - CEMIG
Project	Greenhouse Gas Emissions Inventory
Document Type	Final version after audit
Date	June 2025
File name	Corporate GHG emissions inventory - CEMIG 2025 (base year 2024)
Confidentiality	Public
Document language	English
Number of pages	76
Version	4.0

SUMMARY

List of Figures

List of Tables

INTRODUCTION

The global climate scenario has become increasingly challenging. According to the Intergovernmental Panel on Climate Change (IPCC), the average temperature of the Earth's surface has already risen by around 1.1° C since the end of the 19th century, with the period between 2011 and 2020 being the hottest on record. According to the agency, the current climate change situation is unprecedented in history (IPCC, 2021). Projections indicate that, without more ambitious action, the rise in temperature could exceed the critical limit of 1.5° C in the coming decades, with severe impacts on ecosystems and societies. As presented in the IPCC's sixth report (AR6) (IPCC, 2022), this scenario requires immediate and effective responses.

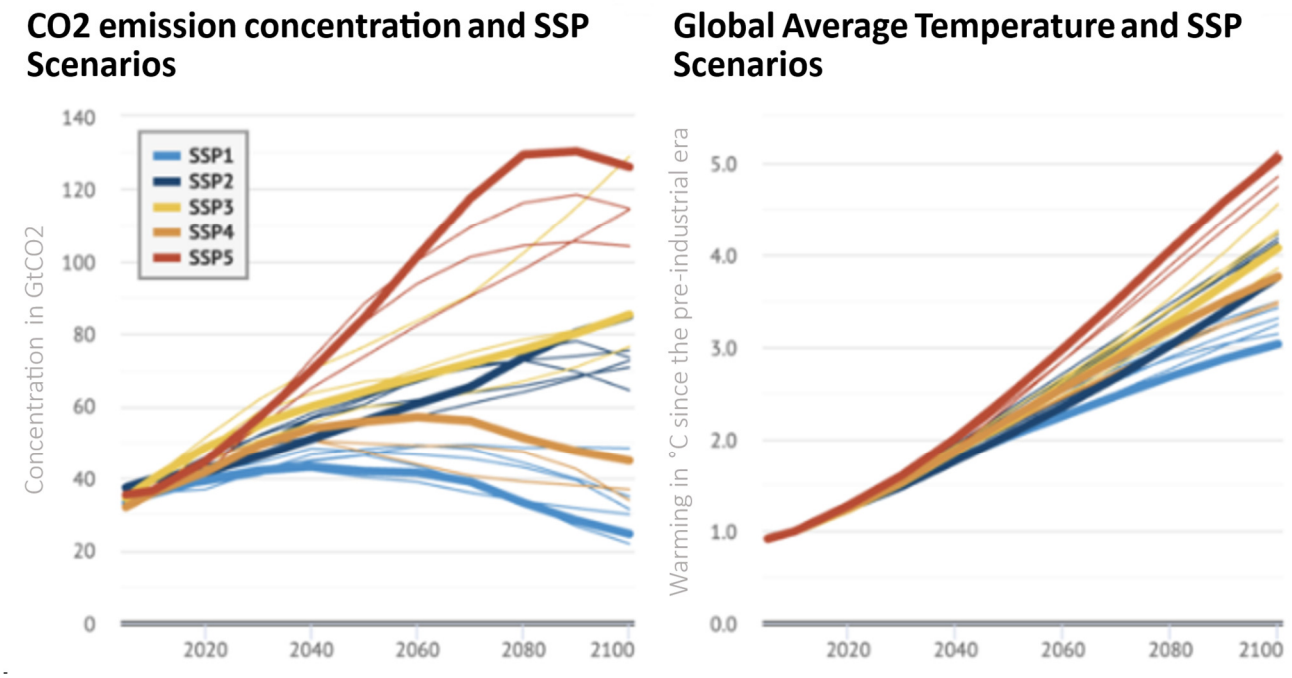

Figure 1 - CO_2 concentration and global surface temperature change in relation to 2100 (Source: Carbon Brief - adapted, 2018).

The scientific consensus that the causes of global warming are mostly anthropogenic reinforces the need for a coordinated transformation in production and consumption models. The mitigation of greenhouse gas (GHG) emissions, combined with the adoption of sustainable practices, represents the most effective way to tackle growing climate risks and ensure a just energy transition.

In this context, responsible corporate action stands out as a strategic factor. Environmental monitoring measures and transparent disclosure of climate indicators have been gaining relevance in relations with investors, regulators, and society. By measuring and reporting their emissions, companies like Cemig are able to direct their efforts towards

reducing impacts and improving their environmental management practices, in line with the principles of corporate governance and social and environmental responsibility.

The transformation of the energy sector plays a central role in this agenda. The advance of renewable sources, the digitalization of infrastructure and the expansion of storage systems impose the need for smarter and more resilient networks. Developing solutions that integrate energy security and sustainability will be essential to consolidate a low-carbon economy and promote a modern and inclusive energy model.

In addition to changes in the energy sector, there is a growing appreciation of social and biodiversity issues within the ESG (environmental, social and governance) agenda. The protection of ecosystems and respect for human rights are increasingly intertwined with corporate strategies, requiring companies to consider the connections between climate, nature, and social justice in their decisions.

In this scenario, sustainability is no longer a competitive advantage but a fundamental principle of modern management. Progress will depend on the capacity for collaboration between sectors and the construction of consistent, transparent strategies committed to the next generations.

Based on this commitment, Cemig draws up its annual GHG emissions inventory, covering all the group's subsidiaries and operations. This continuous monitoring allows the company to accurately identify its main emission sources and establish reduction priorities, contributing to the goal of limiting global warming to 1.5° C, as established in the Paris Agreement. This report, for the base year 2024, reinforces Cemig's alignment with the transition to a low-carbon economy and with building a cleaner, safer, and more sustainable energy future.

Cemig presentation

Cemig is one of the largest electricity companies in Brazil and has a wide range of activities throughout the sector's production chain, from generation to transmission and distribution of electricity. It also operates in the distribution of natural gas through Gasmig.

According to the 2024 Management Report and Financial Statements, Cemig has interests in 48 generation plants, 36 of which are hydroelectric, 10 solar and 2 wind, totaling an installed capacity of 4,679 MW. Its energy matrix is made up of 95.09% hydroelectric, 3.40% wind and 1.51% solar.

According to the report, in transmission, the company operates a transmission network with a length of 5,060.39 km, making it the second largest energy transmission group in the country. This transmission system is responsible for transporting large blocks of energy from the major generating centers to the consumer centers.

In distribution, the document highlights the work of Cemig Distribuição S/A (or Cemig D), which is one of the largest electricity distributors in Brazil in terms of network extension,

serving approximately 96% of the state of Minas Gerais. It also has the highest rate of service to low-income consumers in the country, supplying electricity to 42.9% of all residential consumers[1] .

Cemig is also engaged in the natural gas distribution business through Gasmig, the exclusive distributor of piped natural gas throughout Minas Gerais, serving the industrial, residential, commercial, compressed natural gas (CNG), liquefied natural gas (LNG), automotive (CNG) and thermoelectric segments.

In 2024, Cemig was recognized for its leadership in corporate sustainability by achieving the highest rating on the "A List" of the CDP Climate Change and A- in Water Security, a global non-profit environmental organization. The recognition reflects the company's commitment to combating climate change and ensuring water security. Cemig achieved an "A" grade in climate management for the second time, making it one of the companies in South America's electricity sector to achieve the best ratings in climate and water management.

In 2022, Cemig's Board of Directors approved the company's *Net Zero* Commitment, which aims to reduce the company's emissions and achieve emissions neutrality by 2040. The company has also developed science-based targets for reducing GHG emissions, approved in January 2025 by the *Science Based Targets* initiative (SBTi), which establishes guidelines and methodologies for drawing up science-based emission reduction targets to limit global warming by 1.5 °C.

Setting the targets was only possible because Cemig has been measuring its emissions through Emission Inventories since 2007. The company will continue to carry them out, year by year, so that in the future it can monitor the success of its mitigation actions, assessing whether the decarbonization path is aligned with the targets set and with the path needed to limit the increase in global temperature to 1.5°C.

To this end, the company also drew up its Climate Action Plan in 2023, recognizing the urgency of the climate crisis and positioning adaptation as a strategic pillar. The plan aims to strengthen Cemig's resilience to the impacts of climate change, enabling it to adapt to market transformations and new client demands. In a structured way, it brings together specific initiatives for the energy generation, transmission, and distribution segments, with in-depth analysis of impacts and definition of measures to mitigate them, as well as establishing actions to be implemented

[1] "Who We Are", Cemig, visited in April 2025, https://www.cemig.com.br/quem-somos/.

METHODOLOGY

GHG Protocol

For the preparation of Cemig's GHG Emissions Inventory, the GHG *Protocol* method was adopted, which is a set of standards, guidelines and tools that were created to allow companies and governments to measure and manage their greenhouse gas (GHG) emissions. This program was created in partnership between the World Resource Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) and includes standards for accounting for GHG emissions and removals for various sectors, such as cities, the corporate sector, the value chain, agriculture and the product life cycle, among others.

Through the global standardization provided by the GHG *Protocol*, it is possible for public and private actors to reliably measure and report the climate impact of their activities in terms of GHG emissions. The GHG *Protocol* offers specifications for accounting, quantifying, and publishing corporate inventories of greenhouse gas emissions, allowing companies to better understand their environmental impact and plan more effective mitigation actions.

Inventory Boundaries

The perimeter or boundary of the GHG Inventory defines the emission sources, gases, geographical area, and period that will be considered in the accounting. The main objective of defining the perimeter is to provide an overview of GHG emissions in the organization being inventoried, identifying emitting sectors and their nature, in order to plan actions that can generate significant changes. By defining the perimeter, it is possible to obtain a more accurate view of the origins of emissions, excluding sources that are not relevant to the study.

Organizational Boundaries

The organizational boundary for Cemig's GHG Inventory was established taking into account the companies in which Cemig has more than 99% shareholding and operational control. These companies are considered an integral part of Cemig and therefore their GHG emissions are accounted for in the organization's Inventory.

By establishing this limit, Cemig seeks to provide a comprehensive and accurate view of its operation's GHG emissions, considering the activities of its subsidiaries that have a significant impact on the climate. In this way, the company can identify critical areas in its operations and implement mitigation actions to reduce its GHG emissions.

Time Boundaries

The time boundary of a GHG Inventory refers to the period in which a company or organization's GHG emissions are reported. The aim is to define a consistent reporting period and allow comparisons of GHG emissions between companies and previous years inventoried.

The time frame adopted covers the period from January 1 to December 31, 2024.

Greenhouse Gases

In the context of the study of Cemig's Greenhouse Gas (GHG) emissions inventory, it is necessary to establish which gases will be included in the calculation of emissions. To this end, the GHGs covered by the Kyoto Protocol were considered:

- Carbon dioxide (CO_2): the main gas emitted as a result of burning fossil fuels (coal, oil, natural gas and their derivatives), both from mobile and stationary sources, as well as changes in land use, especially deforestation.
- Methane (CH_4): released by burning mobile and stationary sources, in solid waste and effluent treatment processes, enteric fermentation and animal waste management, among others;
- Nitrous oxide (N_2O): released by the burning of mobile and stationary sources and by the treatment of effluent processes;
- Hydrofluorocarbons (HFCs): released by refrigeration equipment such as air conditioners and refrigerators, such as the refrigerant gases R-134a, R-404A, R-407C, R-410, used in power distribution equipment;
- Perfluorocarbons (PFCs): generic name for organofluoride compounds composed only of carbon and fluorine, originating globally in the production of aluminum, i.e. not generated by Cemig's activities;
- Sulphur hexafluoride (SF_6): generated by electricity and energy equipment;
- Nitrogen trifluoride (NF_3): generated in the manufacture of screens, photovoltaic panels, LED lamps and other microelectronics, i.e. not generated by Cemig's activities.

In order to put all the gases in the same notation, in tons of carbon dioxide equivalent, or tCO_2e, the Global Warming Potential (GWP) of each gas is used. The GWP is an indicator that quantifies the contribution of each Greenhouse Gas to global warming, i.e. it indicates the amount of warming generated by a gas in relation to the same amount of carbon dioxide. The corresponding values for each gas in terms of carbon dioxide equivalent can be found at Table 1 .

Table 1 - Global warming potential by type of gas (Source: IPCC, 2013) .

Greenhouse Gases (GHG)	Global Warming Potential (GWP)
CO_2	1
CH_4	28
N_2O	265
NF_3	12.400
SF_6	23.500
PFCs	6.630 - 17.400
HFCs	4 - 12.400

Sectors of activity

The GHG Protocol establishes three scopes for measuring GHG emissions. Scope 1 takes into account direct emissions resulting from the company's activities, such as the burning of fossil fuels in vehicles and equipment, industrial processes, waste treatment and exhaust emissions, among others.

According to the document "Emission Categories - Scope 1"[2] , published by the Brazilian GHG Protocol Program, the emission categories for this scope are:

- Stationary combustion: emissions from the combustion of fossil fuels in stationary sources such as electricity generators, boilers, furnaces and heaters;
- Mobile combustion: emissions resulting from the burning of fuels in land, air and sea vehicles, also including losses resulting from the storage and distribution of fuels;
- Industrial processes: emissions from chemical, physical and biological processes in industrial sectors such as cement production, steelmaking, chemicals and petrochemicals;
- Waste treatment: emissions from waste treatment processes such as landfills, biological waste treatment, methane emissions from landfills and CO_2emissions from the thermal treatment of waste;
- Fugitive emissions: emissions from unintentional leaks and exhausts of greenhouse gases, such as natural gas leaks and exhausts from refrigeration and air-conditioning systems;

[2] Brazilian GHG Protocol Program. Technical Note: Definition of Scope 1 greenhouse gas (GHG) emissions categories - version 4.0. Available at: https://repositorio.fgv.br/server/api/core/bitstreams/9174f356-eaee-46cf-a0c1-4c55969e07d9/content

- Agricultural activities: non-mechanical emissions from agricultural or livestock activities, such as enteric fermentation and animal waste management, the use of nitrogen fertilizers, urea and lime in soil preparation, as well as forest management;
- Changes in land use: non-mechanical emissions from activities that promote conversions in land use categories, such as the recovery of pastures in forested areas and the clearing of forested areas for another activity.

Scope 2 emission categories, according to the GHG Protocol, are the indirect greenhouse gas emissions that result from the consumption of electricity, heat or steam purchased by an organization. These emissions are associated with the production of electricity, heat, or steam by third parties, which are accounted for separately in their Emissions Inventories. Scope 2 emission categories include:

- Emissions related to the purchase of electricity, heat or steam;
- Emissions related to technical and non-technical losses in energy generation, transmission, and distribution systems.

Scope 3 includes an organization's indirect emissions, i.e. those that are generated along the value chain in which the organization is inserted. These emissions can be divided into 15 categories, as described below:

- Purchases of goods and services: emissions resulting from the production of goods and services purchased by the organization;
- Capital goods: missions generated throughout the life cycle of the capital goods purchased or acquired, from the extraction of resources, production and transport to the moment they are received by the organization;
- Fuel and energy-related activities: emissions resulting from the use of electricity, thermal energy and fossil fuels by the organization, not included in scope 1 and 2;
- Transport and distribution (upstream): includes emissions arising from the transport of goods in vehicles and facilities that are not owned or operated by the organization, as well as outsourced transport and distribution services, including inbound and outbound logistics;
- Waste generated in the operation: covers emissions related to the treatment and/or final disposal of solid waste and liquid effluents from the inventorying organization's operations in the inventory year, carried out in facilities owned or controlled by third parties;
- Business travel: emissions resulting from business trips made by the organization's employees;
- Employee commuting: emissions resulting from the daily commuting of the organization's employees;
- Leased assets (the organization as lessee): includes emissions arising from the operation of assets that have been leased by the inventorying organization, but which have not been accounted for in Scopes 1 and 2;

- Transport and distribution (*downstream*): includes emissions from the transport and distribution of products sold by the inventory organization (if it is not responsible for payment) from its operations to the end consumer, including retail and warehousing, carried out in third-party vehicles and facilities;
- Processing of sold products: includes emissions resulting from the processing of intermediate products, which occur after the sale of these products by the inventorying organization and are carried out by another organization;
- Use of goods and services sold: includes emissions from the end use of goods and services sold by the inventorying organization in the inventory year. These emissions include all emissions throughout the useful life of the products and services sold, from the moment they are purchased until they are disposed of by the end consumer;
- End-of-life treatment of products sold: includes emissions from the final disposal and treatment of products sold by the inventorying organization at the end of their useful life in the year inventoried;
- Leased assets (the organization as lessor): includes emissions arising from the operation of assets owned by the inventory organization (lessor) and leased to other entities in the inventory year;
- Franchises: includes emissions resulting from the activities of the organization's franchises;
- Investments: includes emissions resulting from the organization's financial investments.

It is important to note that scope 3 emissions are considered indirect, but they can have a significant impact on an organization's total emissions, so it is essential that they are taken into account in a Greenhouse Gas Emissions Inventory.

Data collection

The data collection method used began with a kick-off meeting, where the methodology and the tool developed for reporting emitting activities were presented. The data collection process was improved taking into account feedback from Cemig employees, based on their previous experiences with the construction of the GHG Inventory. The points raised were incorporated into the data collection stage and the tool used. The collection tool was then made available to Cemig's focal points, who control different data. Throughout the work, a series of bilateral contacts were made, by e-mail and through meetings, with the aim of supporting respondents in reporting activity data.

The tool provided contains all the emission categories for each of the scopes and the respondent was responsible for entering the activity data related to the emission sources. This tool made it possible to build an organized history of the company's activity and emissions data.

In addition, the spreadsheet uses the following key notations to help understand the data filled in: 'Does not occur', 'Not accounted for', 'Confidential', 'Accounted for in another source' and 'Accounted for', detailed in Figure 2 . These notations help to clarify the nature of the data, increasing the reliability of the data used for emissions calculations.

Flowchart for the Use of Key Notations

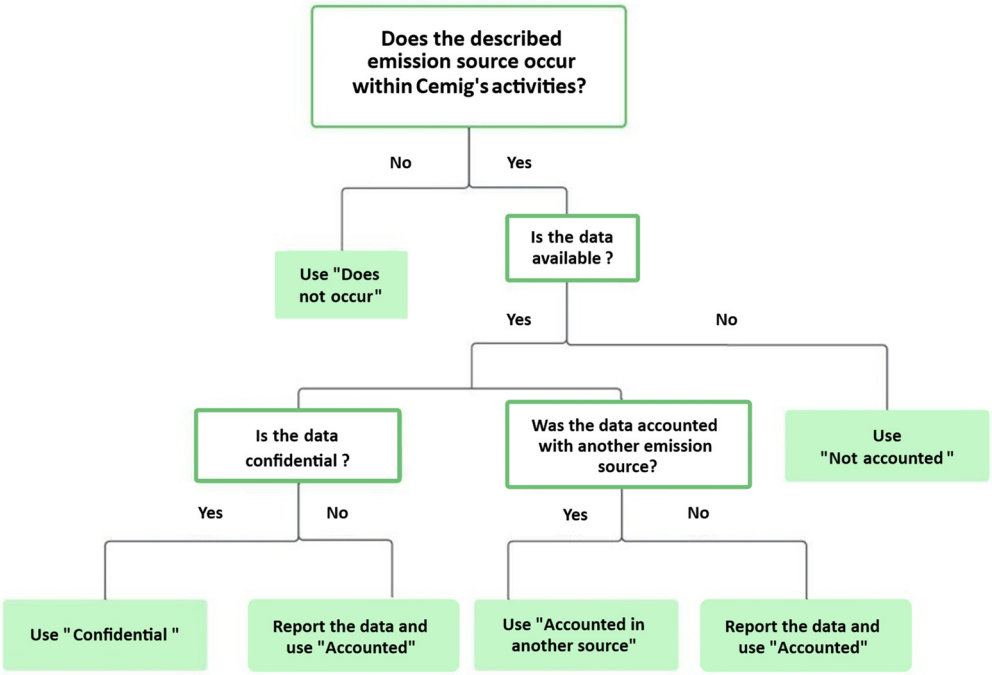

Figure 2 - Flowchart of Key Notations.

Emission Sources

Table 2 below gives a summary of the emission sources accounted for in the 2024 base year inventory, using the key notations presented above.

Table 2 - Sources of emissions ão e notação related to Cemig's activities.

Scope	Issue Category	Emissions (tCO_2e)	Notation
Scope 1	Stationary combustion	218,69	Accounted for
	Mobile combustion	7.394,08	Accounted for
	Fugitive emissions	9.313,22	Accounted for
	Agricultural activities	153,46	Accounted for
	Change of land use	25.781,36	Accounted for
	Industrial processes	-	Does not occur

Scope	Issue Category	Emissions (tCO_2e)	Notation
	Solid waste and effluents	-	Does not occur
	Compensated with CER	43,000	-
Scope 2	Electricity	2.258,51	Accounted for
	I-REC compensation[3]	2.252,41	-
	T&D losses	373.915,74	Accounted for
	Thermal energy	-	Does not occur
Scope 3	Purchased goods and services	72.759,48	Accounted for
	Capital Goods	297.359,75	Accounted for
	Fuel and energy-related activities not included in scopes 1 and 2	3.726.220,68	Accounted for
	Compensation with Cemig-REC	141.388,76	-
	Compensation with I-REC	122.826,27	-
	Upstream transportation and distribution	-	Does not occur
	Waste generated in operations	175,05	Accounted for
	Business travel	1.332,10	Accounted for
	Employee commuting	120,53	Accounted for
	Upstream transportation and distribution	-	Does not occur
	Downstream transportation and distribution	-	Does not occur
	Processing of sold products	-	Does not occur
	Use of goods and products sold	1.794.275,37	Accounted for
	End-of-life treatment of sold products	-	Does not occur
	Downstream leased assets	-	Does not occur
	Franchises	-	Does not occur
	Investments	18.966,40	Accounted for
	Scope 3 emissions not classifiable in categories 1 to 15	-	Does not occur

[3] Cemig offsets its energy consumption emissions through Cemig-Rec, except for the Volta do Rio and plants, which has no commercial electricity supply link with the company.

Cemig GHG Inventory Updates base years 2021, 2022 and 2023

Cemig, in its commitment to reducing GHG emissions, has science-based targets, in accordance with the Science Based Targets (SBT) guidelines. The second stage of the target validation process consisted of validating the inventory by the SBT initiative, following the guidelines of the GHG Protocol Corporate Standards and the Brazilian GHG Protocol Program. In order to adapt the emissions report to the changes required for submission of the SBT target, some updates were made to the calculations and new emitting activities were included. Adjustments were made to some scope 3 emission activities.

Category 1 of scope 3 - 'Purchased Goods and Services' - includes emissions resulting from the burning of fuels by contractors, logistics service providers and suppliers.

In category 3 of scope 3 - 'Fuel and energy-related activities not included in scopes 1 and 2', the calculation of emissions from the extraction, manufacture and transportation of fuels used in the operation (both stationary and mobile sources) was included.

Another change was the segregation of emissions relating to the sale of electricity and gas into two separate categories. The sale of electricity was assigned to the category 'Activities related to fuel and energy not included in scopes 1 and 2', while the sale of gas was kept in category 11 of scope 3 - 'Use of goods and services sold'.

Also included in the calculations were emissions relating to category 2 of scope 3 - 'Capital Goods', and emissions relating to investments made by the company, category 15 of scope 3 - 'Investments'.

RESULTS

General

Cemig's total emissions in 2024 were **6,330,244.42 tCO_2e**, with scope 3 being the main culprit, accounting for approximately **93.38%** of total emissions or **5,911,209.36 tCO_2e**. This was followed by scope 2 with **376,174.25 tCO_2e** or approximately **5.94%** of total emissions. Finally, scope 1, with **42,860.81 tCO_2e** and approximately **0.68%** share of total emissions (Table 3).

Cemig's total emissions intensity, in terms of tons of CO_2equivalent per GWh generated (15,197.29 GWh), was **416.54 tCO_2e/GWh**. Considering only Scope 1 emissions, the intensity was **2.82 tCO_2e/GWh**. In relation to the volume of energy sold in 2024 (63,036,951.22 MWh), the intensity of total emissions was **0.10042 tCO_2e/MWh**.

Table 3 – Summary of emissions by category and scope.

Scope	Issue Category	Emissions (tCO_2e)	Share by scope (%)
Scope 1	Stationary combustion	218,69	0,51%
	Mobile combustion	7.394,08	17,25%
	Fugitive emissions	9.313,22	21,73%
	Agricultural activities	153,46	0,36%
	Change of land use	25.781,36	60,15%
	Compensated with CER	43,000	-
	TOTAL SCOPE 1	**42.860,81**	**0,68%**
Scope 2	Purchase of electricity	2.258,51	0,60%
	I-REC compensation	2.252,41	-
	Balance purchase of electricity	6,10	-
	T&D losses	373.915,74	99,40%
	TOTAL SCOPE 2	**376.174,25**	**5,94%**
Scope 3	Purchased goods and services	72.759,48	1,23%
	Capital Goods	297.359,75	5,03%
	Fuel and energy-related activities not included in scopes 1 and 2	3.726.220,68	63,04%
	Compensated with Cemig-REC	141.388,76	-

Scope	Issue Category	Emissions (tCO_2e)	Share by scope (%)
	Compensated with I-REC	122.826,27	-
	Balance of activities related to fuel and energy not included in scopes 1 and 2	3.160.364,09	-
	Waste generated in operations	175,05	<0,01%
	Business travel	1.332,10	0,02%
	Employee commuting	120,53	<0,01%
	Use of goods and products sold	1.794.275,37	30,35%
	Investments	18.966,40	0,32%
	TOTAL SCOPE 3	**5.911.209,35**	**93,38%**
TOTAL SCOPE 1 + 2 + 3		**6.330.244,42**	

Scope 1

Scope 1 aggregates emissions from the categories 'Stationary Combustion', 'Mobile Combustion', 'Fugitive Emissions' and 'Agricultural Activities' and 'Land Use Change'. In 2024, Cemig's emissions from this scope represented **42,860.81 tCO_2e** or **0.68%** of total emissions.

Among scope 1 emissions, emissions related to 'Land Use Change' accounted for the largest share, with **25,781.36 tCO_2e** representing **60.15%** of total emissions. Next, the 'Fugitive Emissions' category accounted for the second largest share of emissions, totaling **9,313.22 tCO_2e,** or **21.73%** of total scope 1 emissions. Emissions related to 'Mobile Combustion' accounted for the third largest volume of emissions, amounting to **7,394.08 tCO_2e** or **17.25%** of scope emissions. Finally, emissions from 'Stationary Combustion' and 'Agricultural Activities' accounted for the smallest shares of the scope, totaling **218.69** and **153.46 tCO_2e** respectively, equivalent to **0.51** and **0.36%.**

Cemig voluntarily offset its Scope 1 emissions, totaling **43,000 tCO_2e**. This offset was certified by the UNFCCC (United Nations Framework Convention on Climate Change), the international body responsible for supporting climate change mitigation efforts. The compensation was carried out through the Clean Development Mechanism (CDM), which allows emission-reduction projects in developing countries to earn Certified Emission Reduction (CER) credits, each equivalent to one tonne of CO_2. UNFCCC certification ensures that the carbon credits used adhere to globally recognized standards of environmental integrity, transparency, and traceability.

Scope 1 emissions, broken down by emission source, are shown in Figure 3.

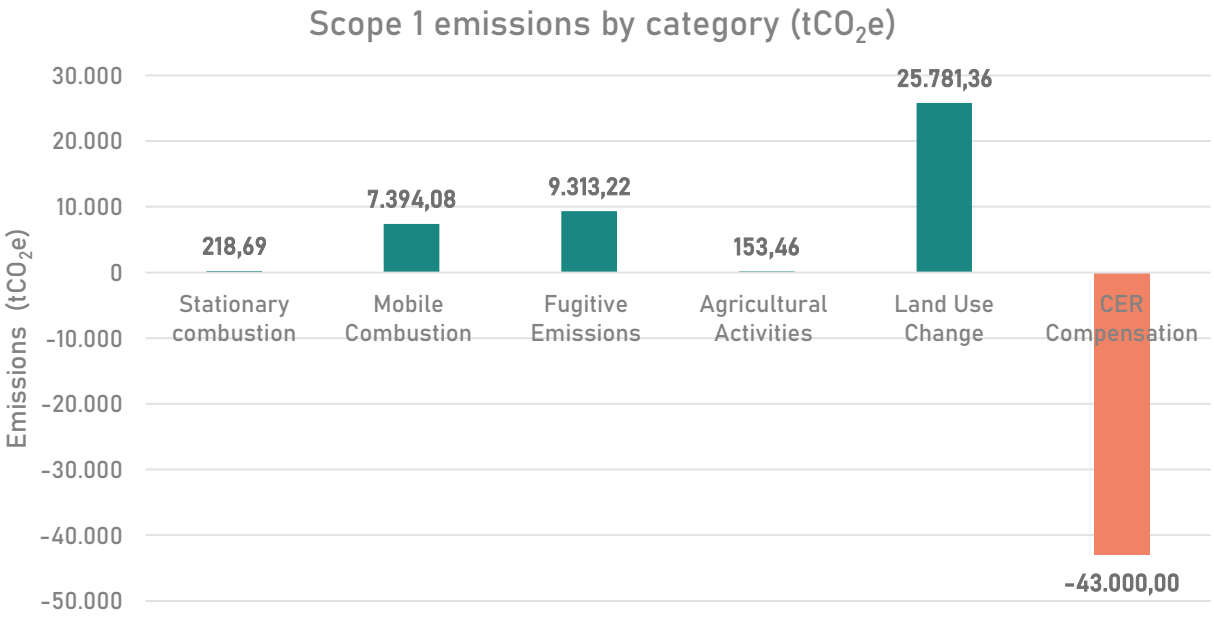

Figure 3 - Scope 1 emissions by category of emission.

Cemig D had the highest emissions for this scope, totaling **34,542.09 tCO_2e**, approximately **80.62%** of scope 1, followed by Cemig GT which emitted **4,173.32 tCO_2e**, approximately **9.74%** of scope 1 emissions. Gasmig had emissions of **1,495.33 tCO_2e**, which represents **3.49%** of the company's emissions. The Centroeste unit and the Parajuru and Volta do Rio SPEs accounted for between **1.90%** and **2.11%**, while the other units contributed less than **0.06%** individually. The Cemig H, Trading and SPE Horizontes units had no emissions for the scope.

Table 4 shows scope 1 emissions by precursor. Vegetable suppression was responsible for the largest emissions by precursor, accounting for almost **60.17%** or **25,781.36 tCO_2e**, followed by the use of SF_6, which totaled **7,923.24 tCO_2e** or **18.52%.** Finally, the consumption of diesel oil was responsible for the third largest emission of the scope in question, which totaled **6,813.73 tCO_2e** or **15.90%.** The other precursors had no significant emissions in scope 1, accounting for less than **6%** of the total.

Table 4 - Scope 1 emissions by precursor.

Precursor	Emissions (tCO_2e)	Representativeness (%)
Plant suppression	25.781,36	60,17%
SF_6	7.937,34	18,52%
Diesel oil	6.813,73	15,90%
R-410A	960,54	2,24%

Precursor	Emissions (tCO_2e)	Representativeness (%)
Loss of CH_4	397,66	0,93%
Petrol	375,55	0,88%
Liquefied petroleum gas (LPG)	290,44	0,68%
Nitrogen fertilizer	135,41	0,32%
Aviation kerosene	80,57	0,19%
Vehicular natural gas (CNG)	31,04	0,07%
Limestone	18,04	0,04%
HFC-134a	17,68	0,04%
Natural gas	11,78	0,03%
Ethanol	10,82	0,03%
CO_2	0,01	0,00%

Stationary combustion

Stationary combustion' includes emissions from burning fossil fuels to produce electricity, such as the use of diesel in power generators. This category accounted for **0.51%** of scope 1 emissions, totaling **218.69 tCO_2e** in the year studied.

Cemig D had the highest emissions related to stationary combustion, amounting to **208.22 tCO_2e**, of which **196.44 tCO_2e** are related to the consumption of diesel oil in generators for distribution and **11.78 tCO_2e** related to the use of natural gas in the organization's restaurants, autoclave and generators.

The SPEs Oeste, PCH, Rosal and Sá Carvalho had the second largest share of this category, with emissions of between **1.14 and 2.21 tCO_2e** individually. Cemig GT then emitted **0.99 tCO_2e**, representing **0.45%** of the category. The other SPEs had no significant emissions. Cemig GT together with the SPEs emitted **10.20 tCO_2e,** these emissions being related to the consumption of diesel oil in generators for generation and transmission.

Gasmig made a very small contribution to emissions in this category, accounting for less than **0.13%** of the total. The Cemig H, Cemig SIM, Trading and Centroeste units, as well as the Horizontes and Parajuru SPEs, had no emissions in this category.

Emissions were broken down by operating unit and are shown in Figure 4

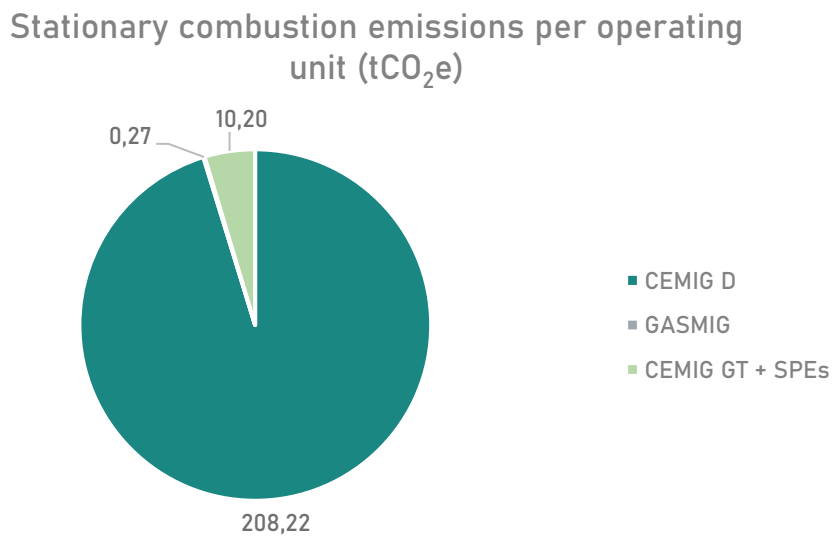

Figure 4 - Stationary Combustion Emissions by Cemig operating unit .

Mobile Combustion

The 'Mobile Combustion' category includes direct emissions related to the use of fossil fuels in transportation. Among Cemig's activities, there were emissions from burning fuels related to road, waterway and air transportation. In 2024, total emissions from mobile combustion were **7,394.08 tCO_2e**, which represents **17.26%** of scope 1 emissions.

The Cemig D operating unit was responsible for the largest share of emissions in this category, with **6,270.40 tCO_2e** and **84.80% of** emissions. At Cemig D, fuel consumption in road transport accounted for the largest share of emissions in this category, totaling **99.25%** of emissions or **6,223.42 tCO_2e**, while emissions from air transport accounted for **0.75%**, resulting in **46.98 tCO_2e**.

Next, Cemig GT was responsible for the second highest emissions in the category in question, with **988.93 tCO_2e**, which corresponds to **13.37%** of the company's mobile combustion emissions. Fuel consumption in road transport accounted for almost all the emissions in this category, totaling **950.71 tCO_2e**, or **96.14%**. A small portion of the operating unit's emissions is related to air and water transportation, which correspond to **33.59** and **4.62 tCO_2e**, respectively.

Gasmig emitted **90.13 tCO_2e** from burning fuel for road transportation, representing **1.22%** of the total. Among the SPEs, the ones with the highest emissions in this category were Camargos, Sul and Volta do Rio, with emissions ranging from **7.04 to 8.22 tCO_2e** each, while the others had no significant emissions. The sum of the SPEs' emissions in this category was **44.04 tCO_2e**, representing **0.60%** of the total.

Finally, Cemig SIM emitted **0.57 tCO_2e**, while the Cemig H, Trading, Centroeste units, as well as the Horizontes, Leste and Poço Fundo SPEs did not present any emissions for the category.

Emissions were broken down by operating unit and are shown in Figure 5.

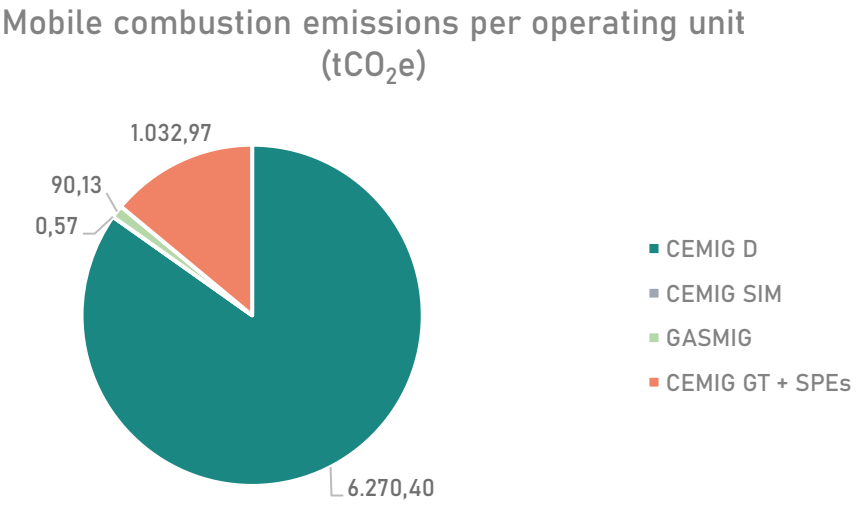

Figure 5 - Mobile Combustion Emissions by Cemig operating unit.

Agricultural Activities

The 'Agricultural Activities' category includes emissions from the use of nitrogen fertilizers and the application of lime. In 2024, total emissions related to agricultural activities represented **153.46 tCO_2e**, **0.36%** of total scope 1 emissions.

The largest share of emissions came from Cemig D's operations, which accounted for **71.37%** of emissions, or **109.52 tCO_2e.** Next, SPE Rosal and Cemig GT were responsible for the second and third largest emissions in the category in question, with **20.81** and **15.01 tCO_2e**, corresponding to **13.56** and **9.78%** of the company's emissions, respectively.

The other SPEs made a very small contribution to emissions, amounting to around **5.29%** of the total. The units Cemig H, Cemig SIM, Trading, Centroeste, Gasmig, as well as the SPEs Camargos, Horizontes, Parajuru, PCH and Volta do Rio did not have any emissions in this category.

Emissions were broken down by operating unit and are shown in Figure 6.

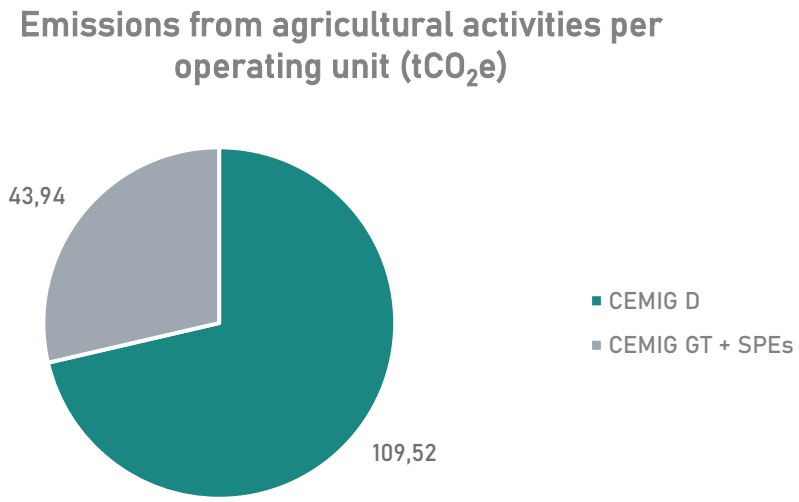

Figure 6 - Emissions from Agricultural Activities by Cemig operating unit .

Land Use Change

Emissions related to 'Land Use Change' come from the suppression and recomposition of vegetation. In 2024, emissions related to land use change represented **25,781.36** tCO_2e, **60.17%** of the scope 1 total.

Cemig D was responsible for most of the emissions related to plant suppression, with **23,959.66 tCO_2e** or **92.93%.** Gasmig and Centroeste each accounted for less than **4.00%** of the category's emissions, with **1,007.27** and **814.44 tCO_2e**, respectively. The other units and SPEs had no emissions for the category.

Emissions were broken down by operating unit and are shown in Figure 7.

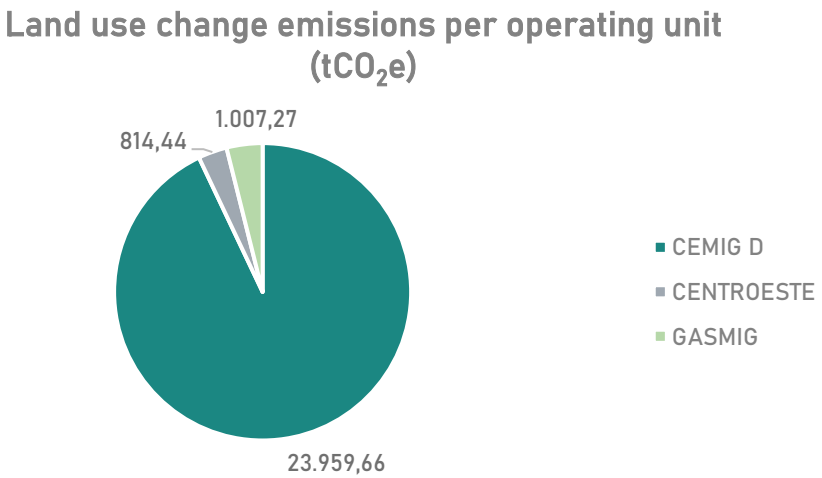

Figure 7 - Land Use Change Emissions by Cemig operating unit.

In 2024, Cemig accounted for a total of 2,107.13 tCO_2e removed by planting and restoring native vegetation in Cerrado and Atlantic Forest areas, carried out by the Cemig D and Cemig GT units. Cemig D was responsible for removing 1,252.85 tCO_2e, especially in the Cerrado biome, which accounted for 86.01% of the total (1,077.60 tCO_2e). The Atlantic Forest biome contributed 13.99% (175.25 tCO_2e). Cemig GT, in turn, recorded the removal of 854.28 tCO_2e, 99.79% of which came from Cerrado areas (852.47 tCO_2e) and only 0.21% from the Atlantic Forest (1.81 tCO_2e). The detailed data is presented in Table 5.

Table 5 - Share of emissions removed by biome .

Unit - Biome	Area (ha)	Removal (tCO_2e)	Percentage (%)
Cemig D - Cerrado	65,67	1.077,60	86,01%
Cemig D - Atlantic Forest	10,68	175,25	13,99%
TOTAL CEMIG D	**76,35**	**1.252,85**	**100%**
Cemig GT - Cerrado	51,95	852,47	99,79%
Cemig GT - Atlantic Forest	0,11	1,81	0,21%
TOTAL CEMIG GT	**52,06**	**854,28**	**100%**

Fugitive Emissions

The 'Fugitive Emissions' category includes emissions from the exhaust of refrigerant gases (HFCs and PFCs), SF_6 or natural gas during Cemig's operations. In 2024, total emissions were **9,313.22** tCO_2e, representing **21.73%** of the scope 1 total.

Cemig D was responsible for the largest share of fugitive emissions, with **3,994.30** tCO_2e or **42.89%** of the total. Of these emissions, **80.41%,** or **3,211.73** tCO_2e, are related to the use of SF_6, while the other **19.59%,** or **782.57** tCO_2e, are linked to the use of the refrigerant gases R-410A and HFC-134a.

Cemig GT had the second largest share of fugitive emissions, totaling **3,168.39** tCO_2e, which corresponds to **34.02%** of Cemig's emissions in this category. Of this total, **93.83%,** or **2,972.75** tCO_2e, are associated with the exhaust of the refrigerant gas SF_6, while the rest of the emissions are related to the use of the refrigerant gases R-410A and HFC-134a, around **195.64** tCO_2e.

The increase in SF_6 emissions observed in the period is mainly due to occasional leaks in circuit breakers. The situation is not recurrent, and all the defective equipment is in the process of being serviced, so this type of occurrence is not expected to recur.

The Parajuru and Volta do Rio SPEs had the third and fourth largest share of emissions in the category, with **911.10** and **841.77** tCO_2e, or **9.78** and **9.04%,** respectively, with all emissions associated with the use and exhaust of SF_6 refrigerant gas.

Finally, Gasmig had the smallest share of emissions, **397.66** tCO_2e, which represents **4.26%** of the emissions in this category, almost entirely due to the escape of methane gas (CH_4) as well as the use of CO_2 in fire extinguishers.

Table 6 shows the history of Cemig's SF_6 emissions over the years 2019 and 2024.

Table 6 - Historical SF_6 emissions.

$SF_{(6)}$ (emissions)	2019	2020	2021	2022	2023	2024
SF_6 (ton)	0,217	0,141	0,155	0,172	0,149	0,337
SF_6 (tCO_2e)	4.959	3.215	3.541	4.042	3.501	7.937
Percentage loss (loss of SF_6 (t)/total mass (t) of SF_6 installed)	0,60	0,37	0,37	0,33	0,24	0,69

Emissions were broken down by operating unit and are shown in Figure 8.

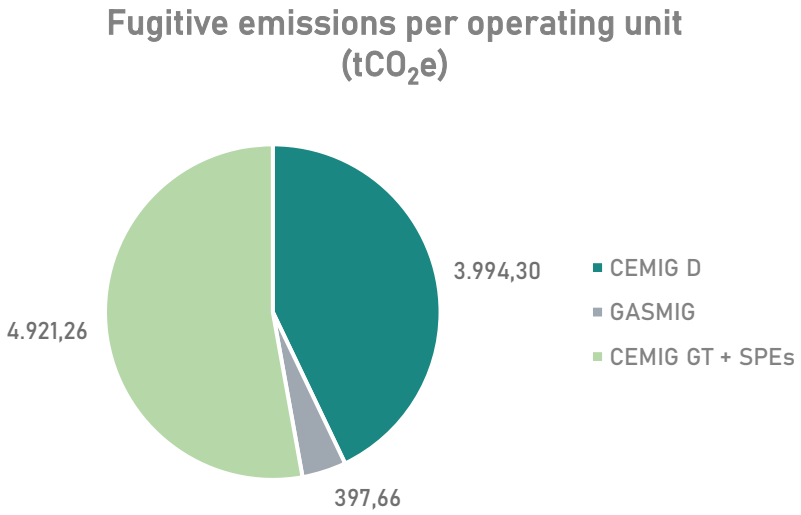

Figure 8 - Fugitive emissions by Cemig operating unit.

Scope 2

Scope 2 includes emissions related to 'Electricity Consumption', 'Losses in Transmission and Distribution Systems' and 'Thermal Energy Consumption'. In the year 2024, emissions related to scope 2 were **376,174.25** tCO_2e representing **5.94%** of total emissions.

Among the scope 2 emission categories, Losses in the Transmission and Distribution Systems accounted for the largest share of emissions, with **373,915.74** tCO_2e or **99.40%** of total scope 2 emissions, followed by emissions due to Electricity Consumption, which contributed **2,258.51** tCO_2e or **0.60%** of scope 2 emissions. Cemig did not report thermal energy consumption (Figure 9).

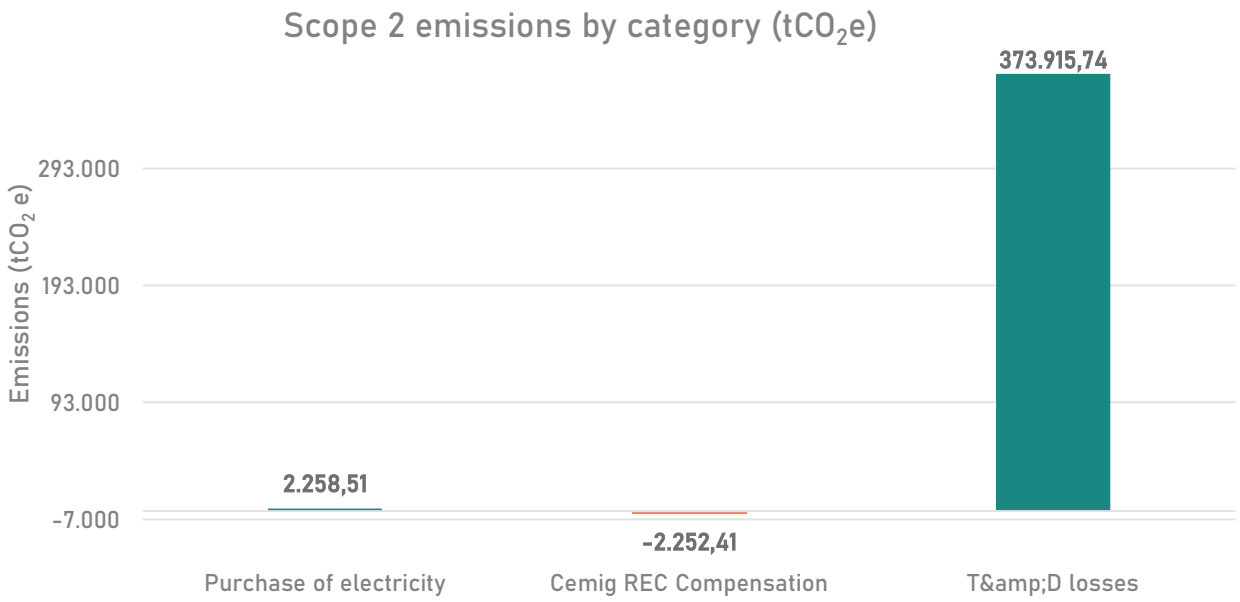

Figure 9 - Scope 2 emissions by emission category .

Electricity Consumption

In 2024, emissions related to Cemig's electricity consumption were **2,258.90** tCO_2e, which amounted to **0.60%** of scope 2 emissions. Cemig D was responsible for the largest emission in this category, with **1,990.95** tCO_2e or **88.14%** of emissions from electricity consumption, followed by Cemig GT, with **217.14** tCO_2e or **9.61%** of emissions.

It is important to note that most of the emissions related to electricity consumption in its operations have been offset through Renewable Energy Certificates (Cemig REC), with the sole exception of the Volta do Rio and Praias de Parajuru plants, which do not have a commercial electricity supply link with the company. This means that for every megawatt-hour (MWh) of energy consumed, Cemig has acquired a certificate that guarantees the equivalent generation of energy from renewable sources, thus neutralizing the environmental impact associated with the use of conventional electricity.

The smallest contributions came from Cemig H, Cemig SIM, Trading, Centroeste and Gasmig, which together accounted for **25.51** tCO_2e, 1.**13%** of emissions, in addition to the SPEs, which together accounted for **1.09%** of emissions from electricity consumption. SPE Parajuru had no emissions in this category.

Segmented emissions by operating unit are shown in Figure 10.

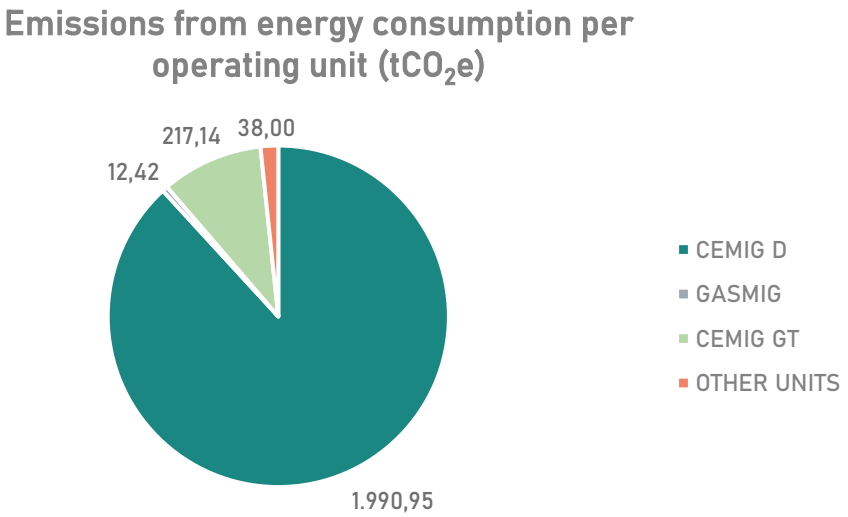

Figure 10 - Electricity consumption emissions by Cemig operating unit .

Transmission and Distribution System Losses

Technical losses in the transmission and distribution systems accounted for the largest share of scope 2 emissions, totaling **373,915.74** tCO_2e or **99.40%** of scope emissions.

Cemig D was responsible for the highest emissions in this category, with **364,263.48** tCO_2e or **97.42%** of emissions, followed by Cemig GT, with **9,398.83** tCO_2e or **2.51%**. The Centroeste unit contributed the least to this category, with **253.44** tCO_2e, less than **0.1%** of the emissions from losses in the transmission and distribution system. The other units and SPEs had no emissions in this category.

Segmented emissions by operating unit are shown in Figure 11.

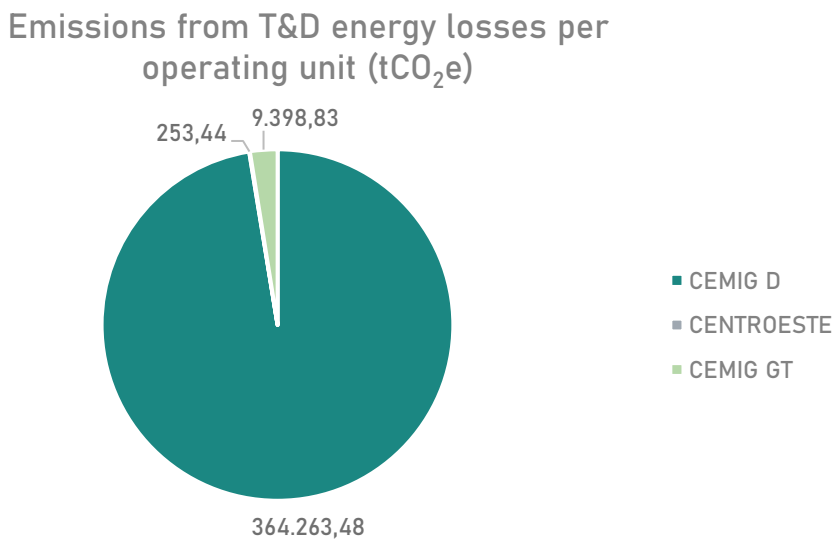

Figure 11 - Emissions from energy losses due to T&D by Cemig operating unit.

Scope 3

Scope 3 emissions result from activities that are not directly controlled by Cemig. Cemig presented **5,911,209.36 tCO_2e** in this scope, which represents **93.38%** of total emissions.

The category of 'Activities related to fuel and energy not included in scopes 1 and 2' was the one with the highest emissions, with **3,726,220.68** tCO_2e, which represents **63.04%** of the scope's emissions. This was followed by the 'Use of goods and services sold' category, responsible for **1,794,275.37** tCO_2e or **30.35%** of the scope's total emissions. The 'Capital goods' category was responsible for **297,359.75** tCO_2e, representing **5.03%** of the scope, while 'Purchased goods and services' accounted for **72,759.48** tCO_2e, or **1.23%** of the scope's emissions.

Emissions in the categories of 'Waste generated in operations', 'Business travel', 'Employee commuting' and 'Investments' represented a very small portion of the scope's total emissions, just **0.35%**.

Segmented emissions by operating unit are shown in Figure 12.

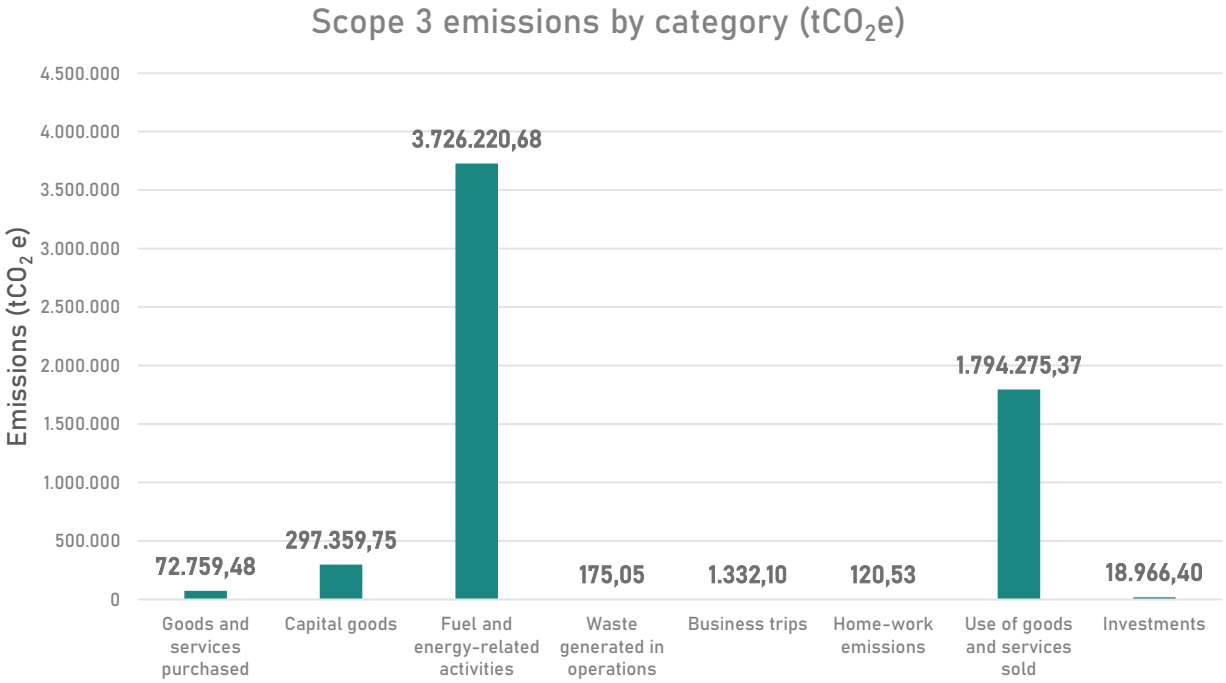

Figure 12 - Scope 3 emissions by emission category.

Purchased goods and services

The 'Purchased Goods and Services' emission category refers to indirect emissions related to the products and services the company purchases from third parties. This category had a total emission of **72,759.48** tCO_2e in 2024, representing **1.23%** of the scope.

The calculation for purchased goods and services incorporated various emission sources, including the burning of fuels used by contractors in the construction of transmission lines, which in previous inventories were calculated in the upstream transportation and distribution category; as well as the burning of fuels used by logistics service providers and suppliers.

In this category, Cemig D was responsible for the largest share of emissions, totaling 72,447.96 tCO_2e, which represented 99.57% of emissions in this category, while Cemig GT emitted a total of 311.51 $tCO_{(2)\,e}$, representing 0.43%.

Breaking down emissions by type of activity, only Cemig D had emissions from burning fuel and electricity consumption by suppliers. These activities totaled 40,899.50 $tCO_{(2)\,e}$, representing 56.21% of emissions in the "Purchased goods and services" category.

Fuel burning by contractors at construction sites totaled 29,713.88 tCO_2e, accounting for 40.84% of emissions in this category. Cemig D was responsible for most of this, with 29,568.60 tCO_2e of emissions, accounting for 99.51%, while Cemig GT had 145.28 tCO_2e accounted for 0.49%.

In relation to the burning of transport fuels, direct and reverse logistics, emissions totaled 2,146.11 tCO_2e, 2.95% of emissions in this category. Cemig D emitted a total of 1,979.87 tCO_2e,

representing 92.25% of emissions from this activity, while Cemig GT emitted a total of 166.24 tCO_2e, representing 7.75%.

Segmented emissions by operating unit are shown in Figure 13.

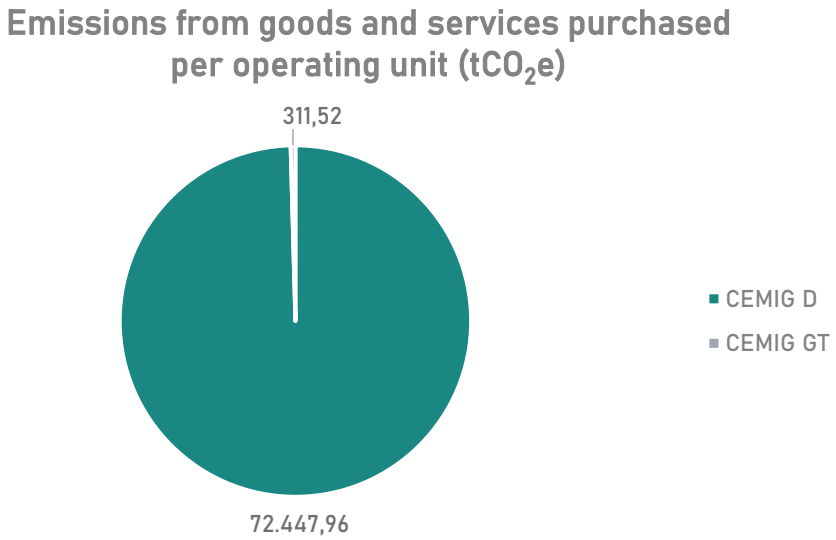

Figure 13 - Emissions from purchased goods and services by Cemig's operating unit.

Engagement Indicators

A survey was carried out among the companies that provide services to Cemig in order to identify which of them have an inventory of greenhouse gas emissions or information related to energy and fuel consumption. The purpose was to estimate the share of these emissions directly associated with the execution of services contracted by the company. Of the total number of companies analyzed, 10% returned sufficient inventories or information to allow the estimation of emissions related to the services provided to Cemig.

In addition, a second engagement indicator was calculated which takes into account the financial value of the contracts. This index weights the representativeness of each company based on the amount disbursed by Cemig in 2024, giving greater weight to the responses of companies with a larger contracted volume. As a result, the weighted engagement reached 23%, indicating that although only 10% of the companies responded, they represented 23% of the total amount contracted by Cemig in 2024.

Capital goods

In 2024, Cemig added new plants to its portfolio. The total power of the plants acquired was 155 MW, of which 85 MW was for UFV Advogado Eduardo Soares (UFV Boa Esperança) and 70 MW for UFV Jusante (Cemig GT). These values and the respective emissions were calculated based on Cemig's shareholding in each plant.

In this type of source, Cemig was responsible for the emission of **297,359.75 $tCO_{(2)\,e}$**, which represented **5.03%** of scope 3 emissions. The other units had no emissions in this category.

Segmented emissions by operating unit are shown in Figure 14.

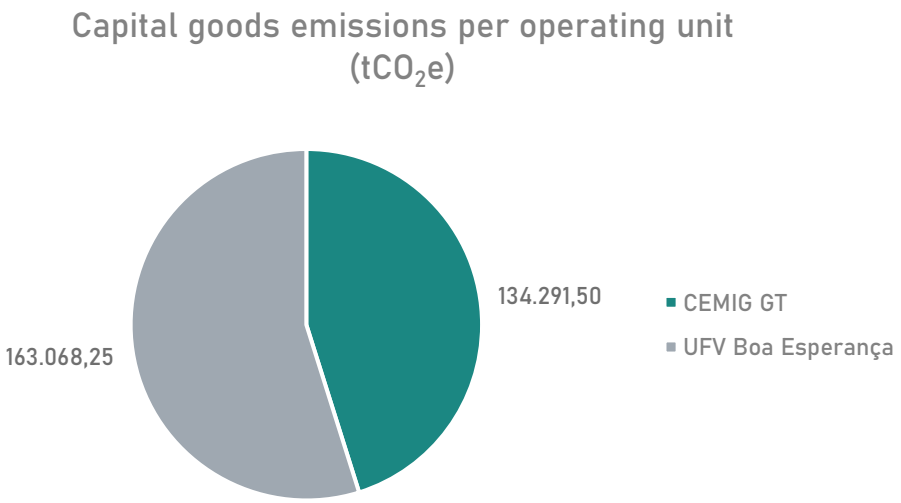

Figure 14 - Capital goods emissions by Cemig operating unit.

Fuel and energy-related activities not included in scopes 1 and 2

The category of 'Activities related to fuel and energy not included in scopes 1 and 2' in scope 3 refers to indirect emissions generated by the end use of goods and services sold by the organization, in addition to emissions related to the extraction, manufacture and transport of fuels used in the operation, known as WTT emissions. At Cemig, the goods and services sold consist of the sale of electricity.

In 2024, Cemig had a total of **3,726,220.68 tCO_2e** of emissions in this category, which represents more than half of the company's scope 3 emissions, totaling **63.04%.** Of this total, **3,424,579.12** tCO_2e, or **91.90%** of emissions, were associated with the sale of electricity, while the smallest portion (**8.10%**) was related to WTT emissions, resulting in **301,641.56** tCO_2e.

WTT (*Well-to-Tank*) emissions refer to indirect emissions associated with the fuel supply chain, including extraction, refining, transportation and distribution processes up to the point of use. In this inventory, emissions from fuels used in Scope 1 and also in Scope 3 activities were considered, specifically considering the categories of purchased goods and services, home-work emissions, business travel and use of goods and services sold, in which there is associated fuel consumption.

Cemig D had the highest emissions in this category, amounting to **1,286,699.48** tCO_2e, or **34.53%**, followed by Cemig H, with **1,058,808.46** tCO_2e, or **28.42%.** The third largest volume

of emissions came from Cemig GT, responsible for **996,472.42** tCO_2e or **26.74%** of emissions in this category. The Centroeste unit was the only one not to have any emissions in this category.

Emissions from energy trading have been broken down by operating unit and are shown in Table 7.

Table 7 – Emissions from electricity trading by subsidiary.

Electricity trading			
Category	Units / Subsidiaries	Electricity (MWh)	Emissions (tCO_2e)
Electricity trading	**Cemig D**	23.456.571,00	1.277.502,27
	Cemig GT	18.288.888,01	996.057,61
	Camargos	153.330,12	8.350,73
	Horizontes	2.467,92	134,41
	Itutinga	135.303,47	7.368,96
	Leste	134.960,07	7.350,26
	Oeste	57.020,74	3.105,49
	Parajuru	73.525,00	(wind power)
	PCH	106.090,87	5.777,97
	Poço Fundo	147.795,84	8.049,32
	Rosal	238.254,66	12.975,93
	Sá Carvalho	467.298,44	25.450,22
	Sul	163.925,22	8.927,77
	Volta do Rio	83.786,01	(wind power)
	Cemig SIM		
	Cemig H	19.439.893,85	1.058.744,20
	Centroeste		
	Gasmig		
	Cemig Trading	87.840,00	4.783,98
TOTAL		**63.036.951,22**	**3.424.579,12**
Compensated with Cemig-REC		**2.596.078**	**141.388,76**

Electricity trading			
Category	Units / Subsidiaries	Electricity (MWh)	Emissions (tCO_2e)
Compensated with I-REC		2.255.247	122.826,27
Balance		58.185.626,22	3.160.364,09

Part of the value of the emissions associated with the electricity sold has been offset through the use of renewable energy certificates (I-RECs). These certificates guarantee that the CO_2 emissions related to traded energy are effectively being offset by renewable sources. However, in order to maintain transparency and ensure clarity in the figures presented, the emissions from traded energy continue to be reported in this report. Cemig sold 4,851,325 MWh, of which **2,596,078 MWh** were offset using the Cemig REC certificate and **2,255,247 MWh** with I-REC Certificates, which ensure that the emissions associated with this energy are offset.

Waste generated in the operation

The Scope 3 emission category 'Waste generated in the operation' refers to indirect emissions resulting from the management of waste generated during the organization's activities. Emissions were calculated based on the final destinations of landfill and incineration, totaling **175.05** tCO_2e, and were not significantly representative of the scope.

Cemig D had the highest emissions in this category, totaling **150.60** tCO_2e, which represents **86.03%** of the category, followed by Cemig GT, with **22.27** tCO_2e, or **12.72%.** The Camargos, Itutinga, Oeste, Sul and Volta do Rio SPEs accounted for **1.25%** of the category's emissions. Cemig H, Cemig SIM, Trading, Centroeste, Gasmig and the other SPEs had no emissions in this category.

The emissions broken down by operating unit are shown in Figure 15.

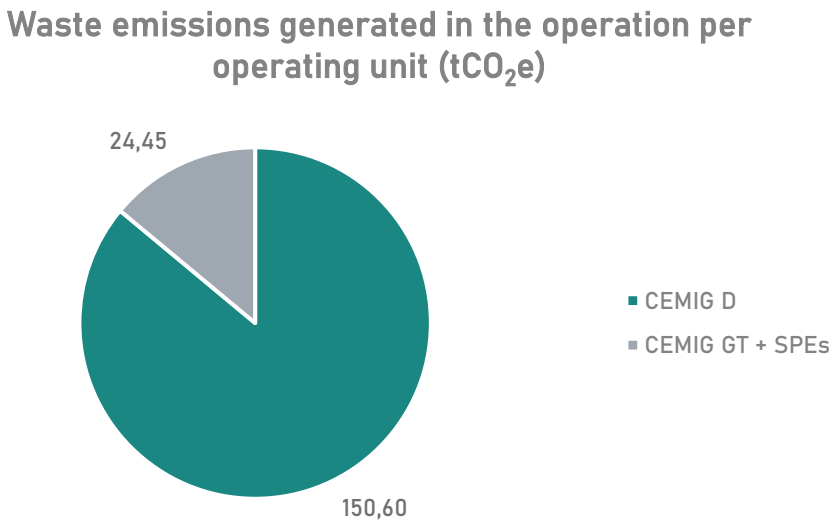

Figure 15 - Waste emissions by Cemig operating unit.

Business travel

The 'Business Travel' emission category comprises GHG emissions from trips made by the organization's employees for business purposes. Travel emissions amounted to **1,332.10** tCO_2e, which represents a very small portion of the scope's total emissions (**0.02%**).

Cemig D was responsible for the largest emissions in the category, totaling **639.69** tCO_2e, representing **48.02%** of the emissions related to business travel, followed by Cemig GT, responsible for **385.27** tCO_2e, or **28.92%** of the total. Cemig H was responsible for **254.34** tCO_2e, accounting for **19.09%** of emissions from business travel, making it the third largest emitter in this category.

Finally, Cemig SIM was responsible for **32.34 tCO_2e** or **2.43%** of emissions, while Gasmig had the smallest share of emissions in this category, amounting to **20.45** tCO_2e, which represents **1.54%** of emissions. The Trading and Centroeste units, as well as the SPEs, had no emissions in this category.

Emissions were broken down by operating unit and are shown in Figure 16.

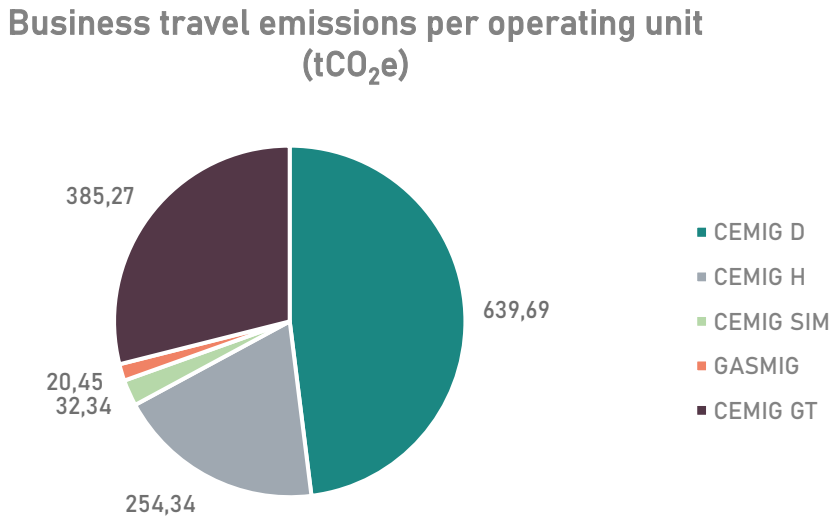

Figure 16 - Business travel emissions by Cemig operating unit .

Employee relocation

The 'Employee commuting' emission category includes the GHG emissions associated with the daily commuting of the organization's employees between their homes and workplaces. Emissions from this commute amounted to **120.53** tCO_2e, and were not significant in the scope.

Cemig D was responsible for the highest emissions in this category, totaling **81.12** tCO_2e representing **67.30%** of emissions, followed by Cemig GT, responsible for **28.02** tCO_2e or **23.25%** of the total. The Gasmig and Cemig H units were responsible for **7.66** and **3.72** tCO_2e, representing **6.35** and **3.09%** of emissions in this category, respectively. SPE Camargos' emissions were not relevant (**0.01%**).

Emissions were broken down by operating unit and are shown in Figure 17.

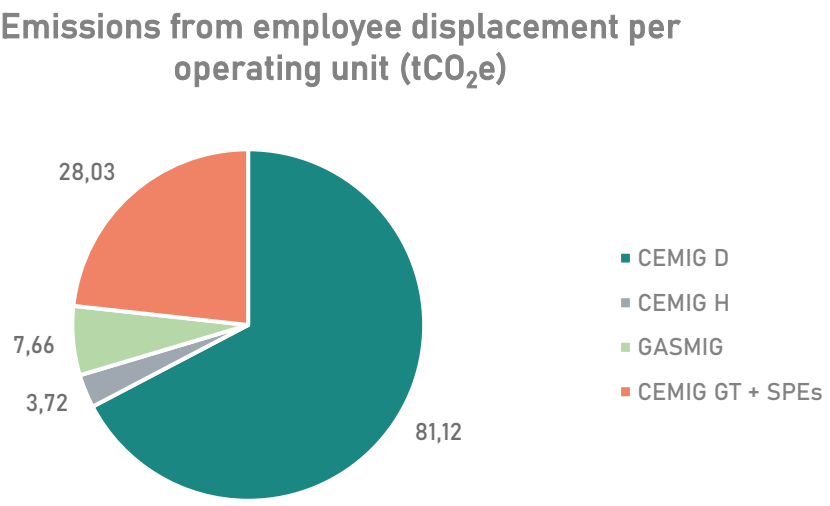

Figure 17 - Emissions from commuting by Cemig operational unit .

Use of goods and services sold

The 'Use of Goods and Services Sold' category in scope 3 refers to emissions generated by the end use of goods and services sold by the organization. At Cemig, the goods and services sold consist of the sale of natural gas by Gasmig, which is responsible for marketing natural gas in the state of Minas Gerais and represents all the emissions in this category.

In 2024, Cemig had total emissions of **1,794,275.37** tCO_2e in this category, related to the sale of 867,240,686.00 m³ of natural gas, representing a significant percentage of the company's scope 3, amounting to **30.35%**.

Investments

The investments category refers to the calculation of emissions resulting from the operation of investments. These emissions were assessed according to Cemig's shareholding in companies in which it does not have operational control, taking into account the Scope 1 and 2 emissions of these companies. This emission category totaled **18,966.40 tCO_2e**, which represents **0.32%** of Scope 3 emissions.

Cemig H holds a 21.68% stake in TAESA, a company in the energy transmission segment, resulting in 18,783.08 tCO_2e emitted proportionally to the operations of this investment. Cemig GT's stakes of 74.50% in Amazônia Energia and **49% in Aliança Norte** resulted in proportional emissions of **102.23 tCO_2e** and **55.86 tCO_2e**, respectively, related to the operational activities of these companies, based on the most recent emissions data available for each (Table 9).

In addition, Cemig GT holds a 49% stake in the Guanhães, Pipoca, Cachoeirão and Paracambi SHPs, for which there was no direct emissions data. To estimate these emissions, the data from the Rosal HPP was used as a base, which had **11.25 tCO_2e of Scope 1 + 2 emissions in 2024**. Considering the operational similarity, a proportional emission of 5.51 tCO_2e was estimated for each HPP, totaling 22.06 tCO_2e for the four plants (Table 8).

Table 8 - Cemig GT's equity stake in SHPs

PCH	Cemig GT shareholding	Cemig GT GHG emissions ($tCO_{(2)\,e}$)
Guanhães SHPP	49%	5,51
Paracambi SHPP	49%	5,51
Cachoeirão SHPP	49%	5,51
Pipoca SHPP	49%	5,51
TOTAL	**49%**	**22,06**

Table 9 - Cemig's equity issues in energy companies

Company	Cemig's shareholding	Cemig GHG emissions (tCO2e)	Associated Cemig unit
Amazonia Energy	74,50%	102,23	Cemig GT
Northern Alliance	49,00%	55,86	Cemig GT
TAESA	21,68%	18.783,08	Cemig H

Finally, Cemig SIM has a 49% stake in the Janaúba, Corinto, Manga, Bonfinópolis, Lagoa Grande, Lontra, Mato Verde, Mirabela, Porteirinha I and II, Brasilândia, Apolo I and II plants. These plants total 59.11 MWp of installed capacity, with Cemig's proportional share corresponding to 28.97 MWp. Considering that Cemig SIM emitted 8.1 tCO_2e for a capacity of 74 MW, a proportional emission of 3.17 tCO_2e was estimated for its participation in these UFVs (Table 10).

Table 10 - Cemig SIM issues shareholding in UFVs

UFV	Total Power (MWp)	Cemig SIM shareholding	Cemig SIM Proprietary Power (MWp)	Cemig GHG emissions SIM (tCO_2e)
UFV Janaúba	5,2	49,00%	2,55	0,28
UFV Corinto	5,28	49,00%	2,59	0,28
UFV Mango	6,34	49,00%	3,11	0,34
UFV Bonfinópolis	3,45	49,00%	1,69	0,18
UFV Lagoa Grande	7,33	49,00%	3,59	0,39
UFV Lontra	6,38	49,00%	3,13	0,34
UFV Mato Verde	3,23	49,00%	1,58	0,17
UFV Mirabela	2,59	49,00%	1,27	0,14
UFV Porteirinha I	3,23	49,00%	1,58	0,17
UFV Porteirinha II	3,23	49,00%	1,58	0,17
UFV Brasilândia	7,35	49,00%	3,6	0,39
UFV Apolo I	2,75	49,00%	1,35	0,15
UFV Apolo II	2,75	49,00%	1,35	0,15
TOTAL	**59,11**	**49,00%**	**28,97**	**3,17**

Figure 18 shows the percentage of emissions in the category related to each investment.

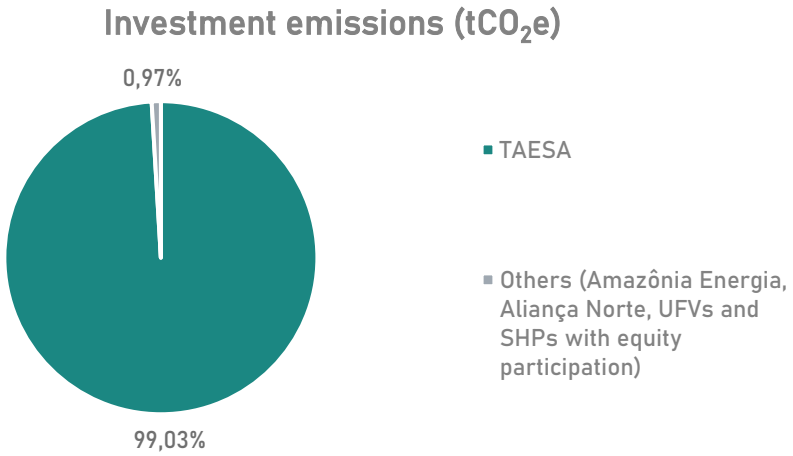

Figure 18 - Cemig's investment issues.

UNCERTAINTY ANALYSIS

The uncertainty analysis of the emissions inventory was conducted qualitatively, by defining criteria to classify the uncertainty of the emissions data by source category. These criteria were based on the guidelines and methodologies described in the GHG Protocol Guidance on Uncertainty Assessment in GHG Inventories and Calculating Statistical Parameter Uncertainty. These references consider the classification of the degree of certainty associated with the main emission sources, as well as the accuracy of the data and the corresponding ranges used in the GHG Protocol's uncertainty assessment tool. The table below shows the criteria defined for this inventory.

Table 11 - Uncertainty criteria for each category of Cemig's inventory.

Uncertainty	Criteria
High (+/-30%)	Unmeasured data, based entirely on estimates, with little or no direct verification. This data can be derived from assumptions or general averages, presenting greater variation and risk of error.
Average (+/-15%)	Data that uses some average factor from the literature and/or estimates in the composition of the calculations. Although based on more specific information, there is still a margin of uncertainty due to the use of standard factors or approximations.
Low (+/-5%)	Primary data, collected directly, with precise and recorded measurements. This data has high reliability, as it is obtained from direct and verifiable sources, minimizing the associated uncertainty.

Based on the criteria defined, the following levels of uncertainty were assigned to Cemig's emissions, by category:

Table 12 - Levels of uncertainty associated with Cemig's emissions, by category.

Scope	Category	Uncertainty
Scope 1	Stationary combustion	Low
Scope 1	Mobile combustion	Low
Scope 1	Fugitive emissions	Low
Scope 1	Agricultural activities	Average
Scope 1	Change in land use	Average
Scope 2	Electricity (location)	Low
Scope 2	System losses	Low

Scope	Category	Uncertainty
Scope 3	Purchased goods and services	Low
Scope 3	Capital goods	Average
Scope 3	Fuel and energy-related activities not included in Scopes 1 and 2	Average
Scope 3	Waste generated in operations	Average
Scope 3	Business travel	Average
Scope 3	Home-work emissions	Average
Scope 3	Use of goods and services sold	Low
Scope 3	Investment	Average

COMPARATIVE ANALYSIS 2020-2024

This section presents a comparative analysis of GHG emissions between 2020 and 2024. By comparing data collected over a period of time, it is possible to identify trends, patterns and variations in the company's emissions, allowing it to monitor its emissions and draw up reduction strategies. In addition, a comparative analysis for this period can help identify the impact of external factors, such as changes in the economy, politics, technology, climate and other variables that may affect a company's performance.

Between 2020 and 2021, Cemig recorded a significant increase in its emissions, with an increase of approximately **88%**, from **5,706,171.36 tCO_2e** to **10,711,087.49 tCO_2e**. In 2022, there was a reduction of around **42%** compared to the previous year, with emissions totaling **6,254,304.34 tCO_2e**. From 2022 to 2023, Cemig's emissions fell by around **13%**, from **6,254,304.34 tCO_2e** to **5,432,266.75 tCO_2e** (Table 13).

Table 13 - Historical series of Cemig's emissions by scope (tCO_2e).

Scope	2020	2021	2022	2023	2024	Variation (2023-2024)
Scope 1	11.419,36	17.048,29	83.451,14	20.630,56	42.860,81	107,75%
Scope 2	448.084,00	861.233,04	291.766,25	305.513,70	376.174,25	23,13%
Scope 3	9.299.339,56	9.832.806,16	5.879.086,95	5.105.931,99	5.911.209,35	15,77%
TOTAL	**9.758.842,92**	**10.711.087,49**	**6.254.304,34**	**5.432.266,75**	**6.330.244,42**	**16,53%**

The reduction in emissions observed from 2021 to 2022 is mainly related to the decrease in the emission factor of the National Interconnected System network, which peaked in 2021 (0.1264 tCO_2e/MWh) and decreased in 2022 (0.0426 tCO_2e/MWh). The variation between emission factors is associated with changes in the rainfall regime, since in years with less rainfall (total precipitation volume) hydroelectric plants lose their capacity to produce electricity and the National Electricity System Operator (ONS) has to "activate" thermoelectric plants, which generate higher emissions due to the use of fossil sources.

In 2024, there was a **16.53%** increase in emissions compared to 2023, approximately **898,000 tCO_2e**, driven mainly by the increase in the emission factor of electricity generation in the National Interconnected System (SIN), which grew significantly by **41%**. Another relevant factor was the 14% increase in energy sales, indicating greater energy demand and circulation, which also contributed to the increase in emissions in the period. In addition, the Scope 3 capital goods category also saw a significant increase of 166.38%, due to the acquisition and implementation

of new plants. This growth, however, was one-off, reflecting specific investments made during the year.

The history of emissions from 2020 to 2024 is highlighted in Figure 19.

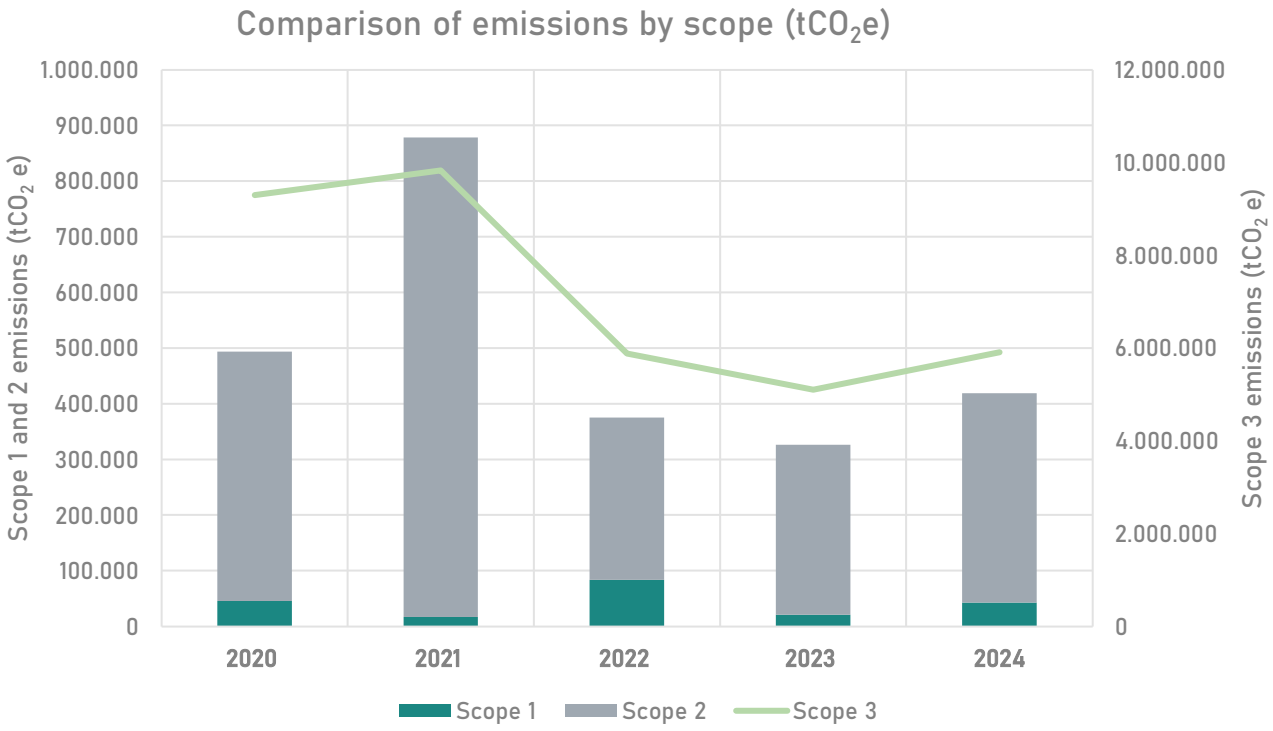

Figure 19 - Cemig's historical emissions series.

With regard to scope 1, between 2020 and 2021, Cemig showed an increase of approximately **49%** in emissions, which represents just over **5,600 tCO_2e**. In the following year, from 2021 to 2022, emissions continued to grow, with an increase of around **66,000 tCO_2e**, mainly due to the inclusion of the calculation of emissions associated with the activity of plant suppression, linked to the expansion works of the energy distribution network. Between 2022 and 2023, there was a significant reduction of around **75%** in Scope 1 emissions, which is equivalent to a drop of more than **62,000 tCO_2e**.

In 2024, scope 1 emissions increased by approximately **108%**, meaning an increase of more than **22,000** tCO_2e compared to 2023. This increase was mainly influenced by the growth in fugitive emissions resulting from the replacement of equipment in wind farms, which resulted in a greater release of SF_6, a gas with a high global warming potential. In addition, there was an increase in emissions related to agricultural activities and changes in land use. These increases are associated, respectively, with the greater consumption of fertilizers - which intensifies the emission of nitrogen oxides - and the expansion of vegetation suppression, reducing carbon absorption capacity and releasing emissions associated with the removal of native vegetation.

The results for scope 1 emissions in the period from 2020 to 2024 are highlighted in Figure 20 and detailed in Table 14.

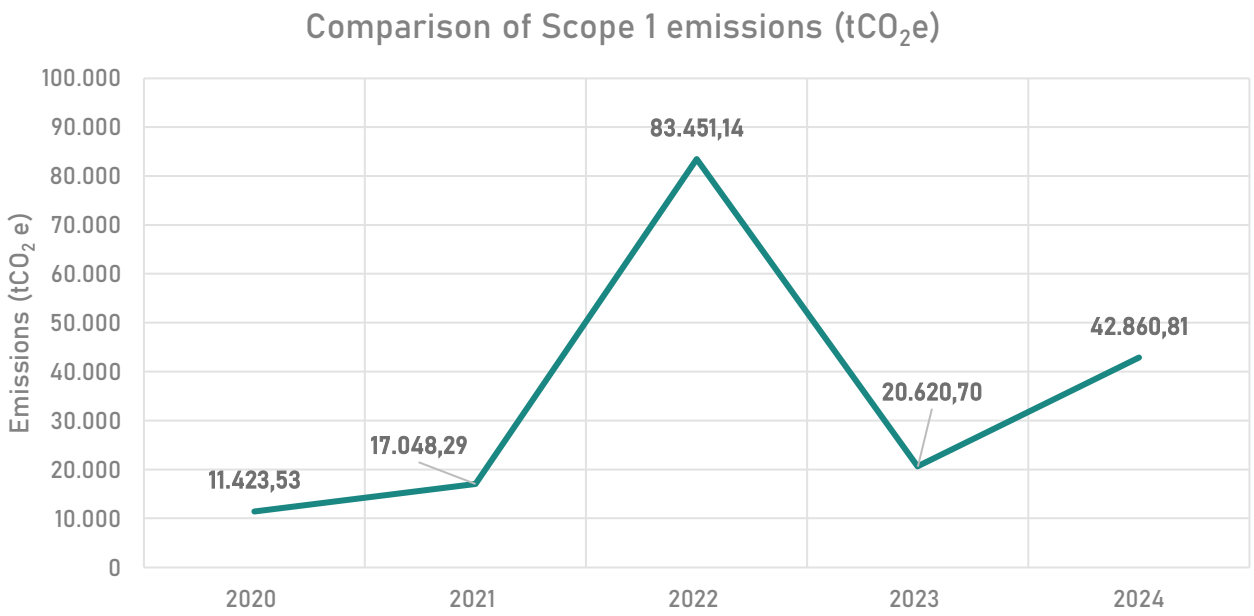

Figure 20 - Historical series of Cemig's Scope 1 emissions.

Table 14 - Historical series of Scope 1 emissions (tCO_2e).

SCOPE 1						
Category	2020	2021	2022	2023	2024	Variation (2023-2024)
Stationary combustion	198,43	114,27	140,79	249,26	218,69	-12,26%
Mobile combustion	7.927,83	8.956,83	7.307,85	7.600,77	7.394,08	-2,72%
Fugitive emissions	3.262,22	3.688,06	6.314,00	5.382,71	9.313,22	73,02%
Agricultural activities	4,17	46,98	5.852,00	58,77	153,46	161,11%
Land use change	30,88	4.242,15	63.836,50	7.329,19	25.781,36	251,76%
TOTAL	**11.423,53**	**17.048,29**	**83.451,14**	**20.620,70**	**42.860,81**	**107,85%**

With regard to scope 2, between 2020 and 2021, emissions increased by **92%**, which represents an increase of approximately **413,000 tCO_2e**, in line with the increase in the grid's emission factor. Between 2021 and 2022, there was a reduction of around **570,000 tCO_2e**, also attributed to the drop in the grid's emission factor (Table 15). In 2023, emissions grew again, with an increase of approximately **5%** compared to the previous year, due to the increase in the amount of electricity lost in transmission and distribution.

In 2024, the increase in emissions was **23.13%** compared to the previous year, totaling approximately **71,000 tCO_2e**, due to both the increase in the grid's emission factor and the increase in the amount of electricity lost in transmission and distribution compared to 2023.

The results of scope 2 emissions in the period from 2020 to 2024 are highlighted in Figure 21 and detailed in Table 16.

Table 15 - Average grid emission factor (tCO_2/MWh).

Year	Average Grid Emission Factor (tCO_2/MWh)
2020	0,0617
2021	0,1264
2022	0,0425
2023	0,0385
2024	0,0545

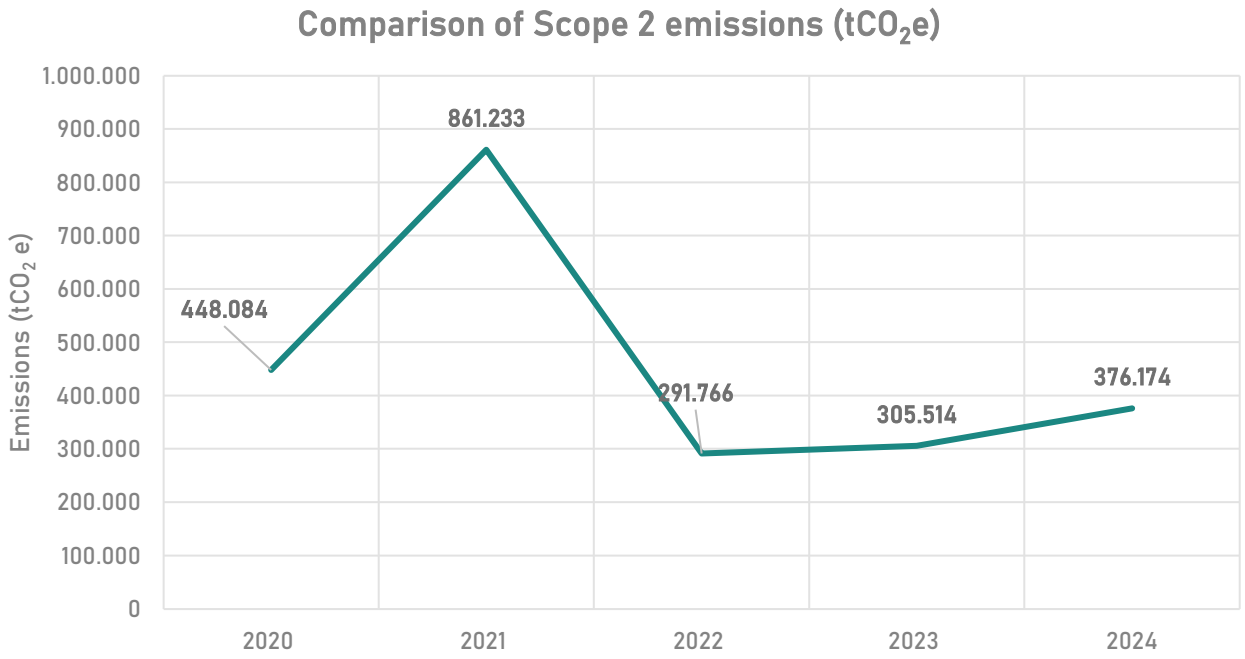

Figure 21 - Historical series of Cemig's Scope 2 emissions.

Table 16 - Historical series of Scope 2 emissions (tCO_2e).

SCOPE 2						
Category	2020	2021	2022	2023	2024	Variation (2023-2024)
Electricity consumption (location)	2.386,00	4.707,95	1.734,83	2.382,64	2.258,51	-5,21%
T&D losses (localization)	445.698,00	856.525,09	290.031,42	303.131,06	373.915,74	23,35%
TOTAL	**448.084,00**	**861.233,04**	**291.766,24**	**305.513,70**	**376.174,25**	**23,13%**

In scope 3, there was a **5.73%** increase in emissions between 2020 and 2021. This increase may be related to the resumption of activities after the lockdown period caused by the COVID-19 pandemic, when businesses and industries had their activities reduced and, consequently, reduced their energy consumption. Between 2021 and 2022, emissions fell significantly, with a reduction of approximately **3,953,719.21 tCO_2e**, which represents around **40%.** This decline can largely be explained by the sharp drop in the average annual emissions factor associated with electricity production in Brazil over this period (Table 15).

In 2023, total scope 3 emissions continued to fall, with a reduction of 13.14% compared to the previous year, which corresponds to around **772,964 tCO_2e.** This reduction was mainly influenced by the lower volume of natural gas sold compared to the previous year, emissions accounted for in the "Use of goods and services sold" category.

In 2024, emissions increased by **15.77%** compared to 2023, approximately **805,000 tCO_2e**. This increase was mainly associated with the increase in the amount of electricity sold, as well as the increase in the emission factor linked to electricity consumption, emissions from the category of 'Activities related to fuel and energy, not included in scopes 1 and 2'.

The results of scope 3 emissions in the period from 2020 to 2024 are highlighted in Figure 22 and detailed in Table 17.

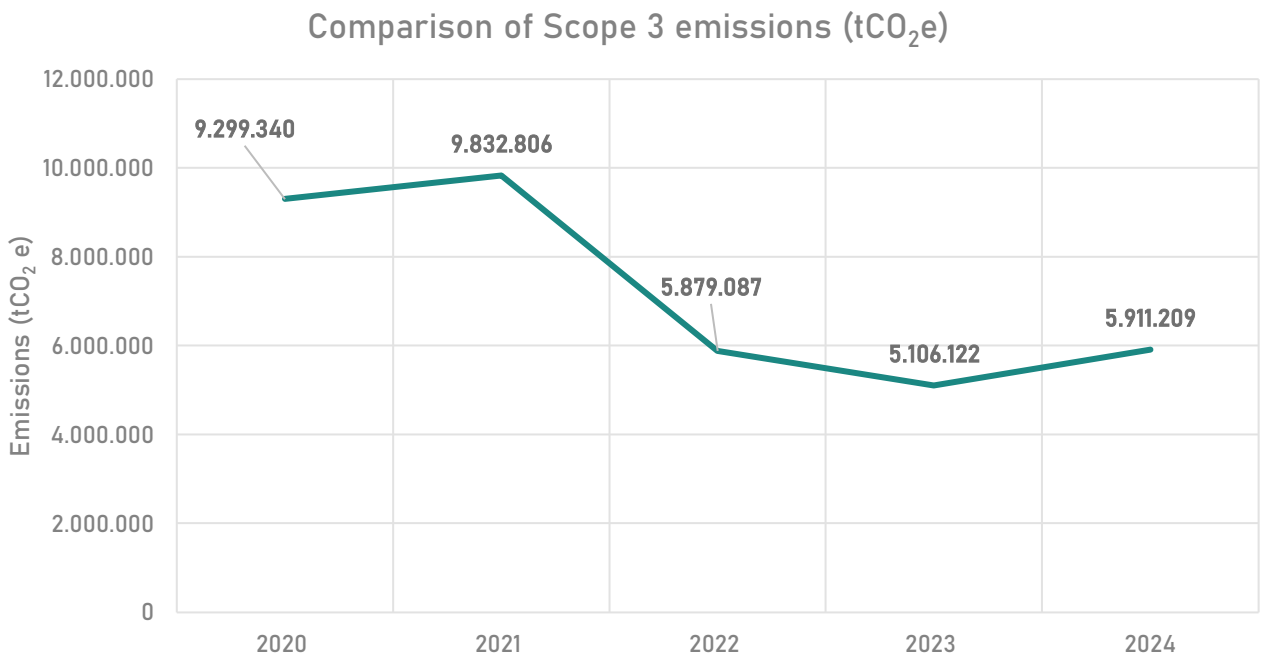

Figure 22 - Historical series of Cemig's Scope 3 emissions.

Table 17 – Historical series of Scope 3 emissions (tCO_2e).

SCOPE 3						
Category	**2020**	**2021**	**2022**	**2023**	**2024**	**Variation (2023-2024)**
Purchased goods and services	21.841	3.995,32	385.513,22	428.030,22	72.759,48	-83,00%
Capital Goods	-	42.818,31	-	111.631,07	297.359,75	166,38%
Fuel and energy-related activities	-	6.874.496,13	2.758.590,46	2.585.631,36	3.726.220,68	44,11%
Waste	1.004,00	558,17	582,98	204,59	175,05	-14,44%
Business travel	99,00	213,06	511,47	788,26	1.332,10	68,99%
Commuting	174,00	533,58	141,10	44,80	120,53	169,03%
Goods and services sold	9.276.221,56	2.872.586,69	2.695.945,19	1.907.211,02	1.794.275,37	-5,92%
Investments	-	37.604,91	37.802,54	72.581,17	18.966,40	-73,87%
TOTAL	**9.299.339,56**	**9.832.806,17**	**5.879.086,96**	**5.106.122,49**	**5.911.209,35**	**15,77%**

ANALYSIS OF SCIENCE-BASED TARGETS

Cemig had its GHG emission reduction targets approved by the Science Based Targets initiative (SBTi) in January 2025. Approval by SBTi represents a strategic milestone for Cemig, reinforcing its position as a leader in sustainability in the energy sector. External validation attests to the robustness of the company's commitment to the transition to a low-carbon economy and strengthens the confidence of investors, clients and partners.

The validation includes short and long-term targets, in line with the global warming limit of 1.5°C, as established in the Paris Agreement. Among the approved commitments, whose base year is 2021 emissions, are:

- **Short-term goals (until 2030):**
  - Target 1: Absolute reduction of 70.8% in Scope 1 and 2 emissions;
  - Target 2: Reduction of 75.8% in the intensity of Scope 3 emissions related to energy sold (per MWh);
  - Target 3: Absolute 42% reduction in Scope 3 emissions from the use of fossil fuels sold;
  - Target 4: Absolute reduction of 42% in other Scope 3 emissions.
- **Long-term and net-zero targets (until 2040):**
  - Target 5: 90% reduction in absolute Scope 1 and 2 emissions;
  - Target 6: Reduction of 92.4% in the intensity of Scope 3 emissions related to energy sold (per MWh);
  - Target 7: Reduce Scope 3 emissions associated with the use of fossil fuels sold by 90%;
  - Target 8: Absolute 90% reduction in other Scope 3 emissions;
  - Target 9: Achieve net-zero emissions across the entire value chain by 2040.

Considering emissions in 2024[4] (base year 2023), the results related to progress on the targets are shown below:

[4] The emission sources included and approved in the SBT targets may differ slightly from the results of the Inventory described in this report. These differences are due to the initiative's own accounting rules.

Table 18 and Figure 23 show that targets 1 and 5, associated with the reduction of Scope 1 and 2 emissions, were achieved in 2024 when compared to SBTi's predicted emissions trajectory;

Table 18 - Absolute reduction targets for Scope 1 and 2 emissions

Targets 1 and 5: Absolute reduction of Scope 1 and 2 emissions	
Emissions 2021	873.992,20
Emissions 2024	393.100,24
Difference (%)	**- 55%**

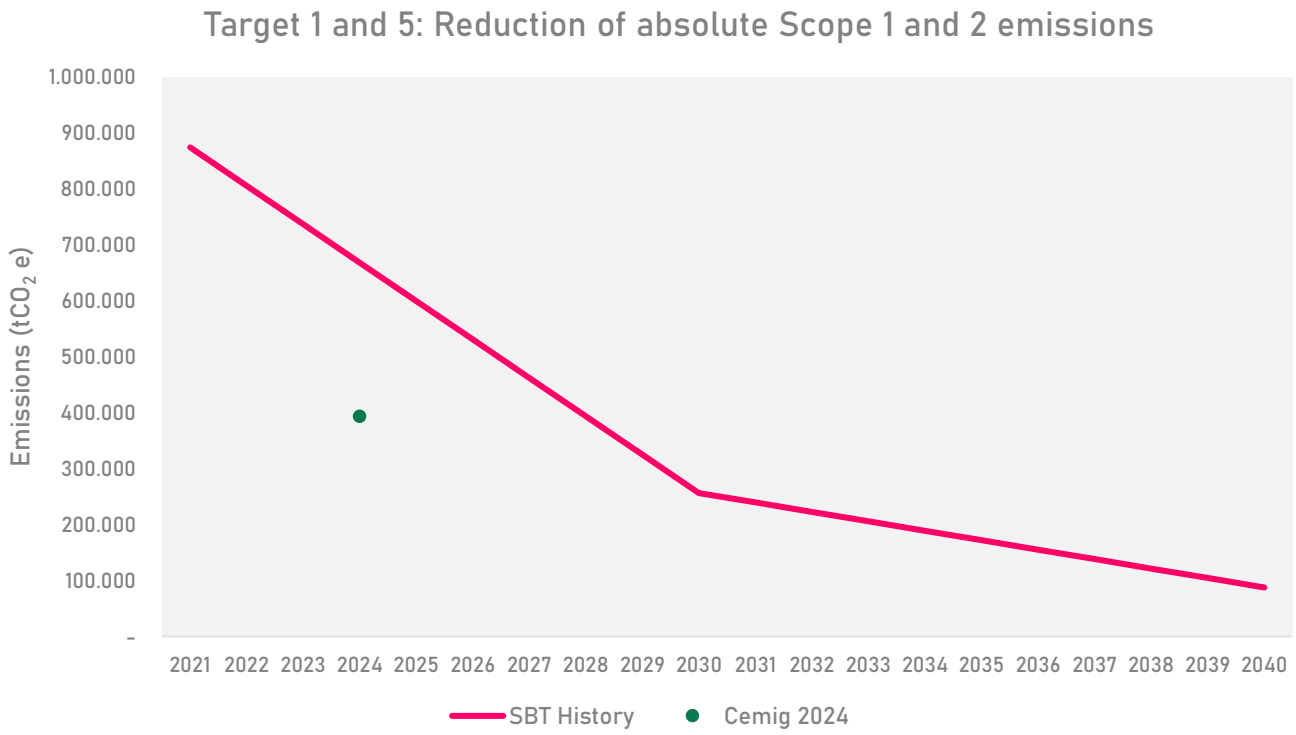

Figure 23 - Cemig's results for Targets 1 and 5 compared to the SBT target trajectory

It can be seen from Table 19 and Figure 24 that targets 2 and 6, associated with reducing the intensity of Scope 3 emissions linked to the sale of energy, were achieved in 2024 when compared to the trajectory of emissions forecast by SBTi;

Table 19 – Targets for reducing the intensity of Scope 3 emissions related to energy sold

Targets 2 and 6: Reducing the intensity of Scope 3 emissions related to energy sold	
Emissions 2021	0,1191
Emissions 2024	0,0545
Difference (%)	**- 54%**

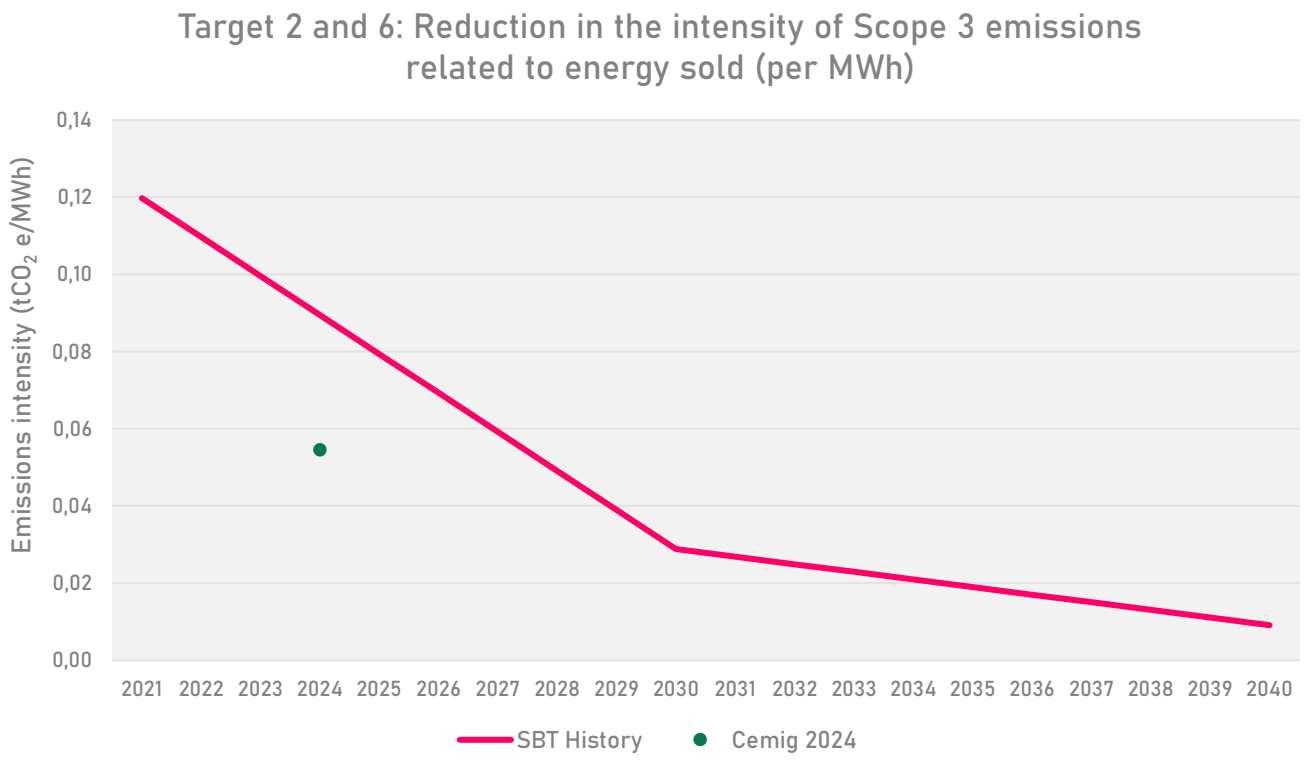

Figure 24 – Cemig's results for Targets 2 and 6 compared to the SBT target trajectory

It can be seen from Table 20 and Figure 25 that targets 3 and 7, associated with the reduction of Scope 3 emissions linked to the use of fossil fuels sold, were achieved in 2024 when compared to the trajectory of emissions forecast by SBTi;

Table 20 – Absolute reduction targets for Scope 3 emissions from the use of fossil fuels sold

Targets 3 and 7: Absolute reduction in Scope 3 emissions from the use of fossil fuels sold	
Emissions 2021	2.872.586,69
Emissions 2024	1.794.275,37
Difference (%)	**- 38%**

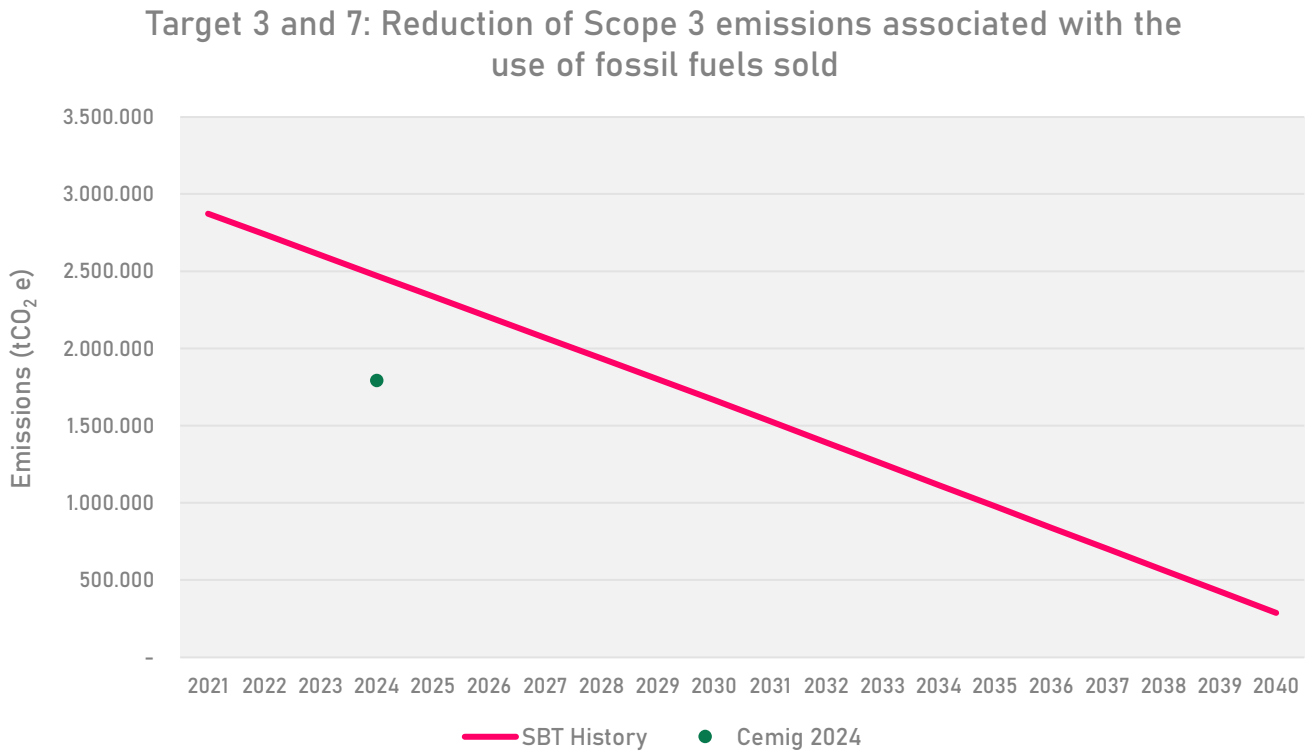

Figure 25 - Cemig's results for Targets 3 and 7 compared to the SBT target trajectory

It can be seen from Table 21 and Figure 26 that targets 4 and 8, associated with the reduction of other Scope 3 emissions, were not achieved in 2024 when compared to SBTi's predicted emissions trajectory. The increase in emissions observed is temporary and is due to the increase in emissions in the 'Capital Goods' category, related to the construction and operation of solar power plants with a total capacity of 155 MWp. Disregarding this one-off factor, emissions linked to these targets would have fallen by 30%.

Table 21 - Absolute reduction targets for other Scope 3 emissions

Target 4 and 8: Absolute reduction of other Scope 3 emissions	
Emissions 2021	555.443,19
Emissions 2024	683.815,55
Difference (%)	**+ 23%**

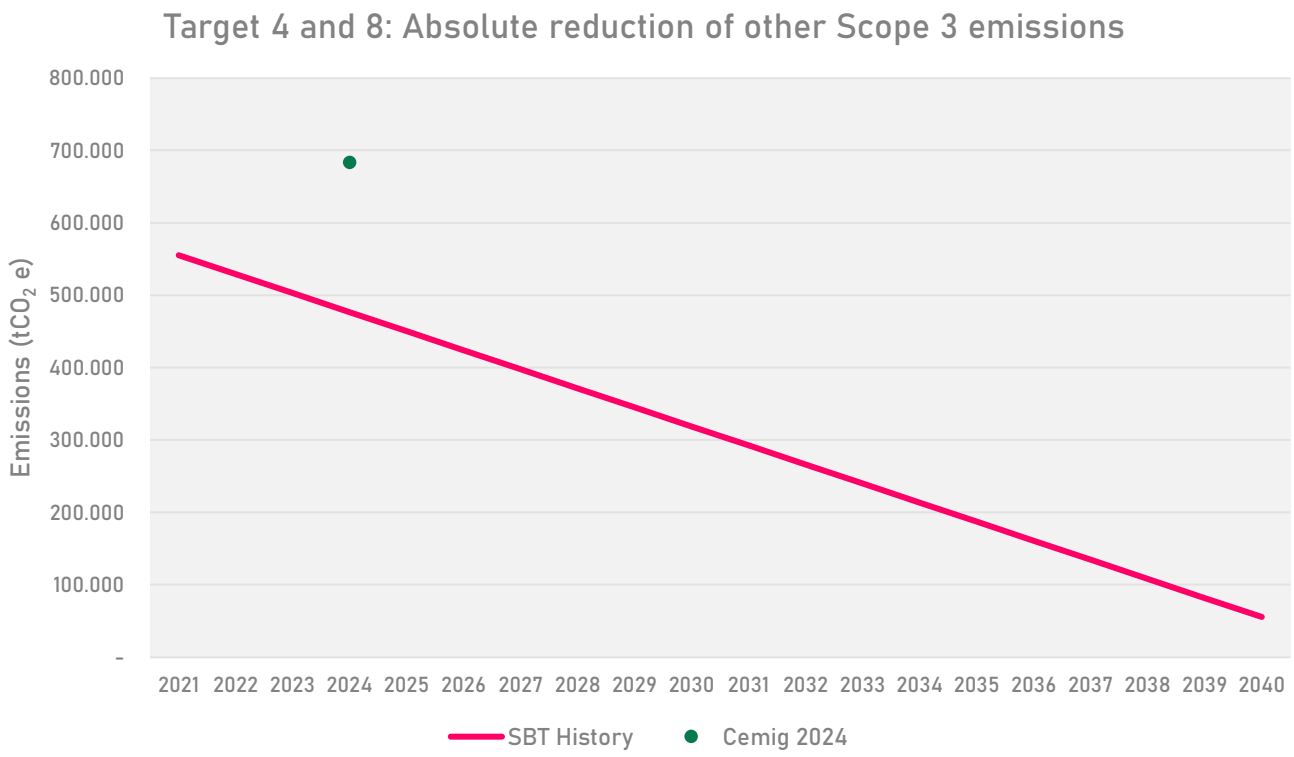

Figure 26 - Cemig's results for Targets 4 and 8 compared to the SBT target trajectory

It can be seen from Table 22 and Figure 27 that target 9, associated with the Net-Zero target, was achieved in 2024 when compared to SBTi's predicted emissions trajectory.

Table 22 - Net-Zero Target

Goal 9: Net-Zero	
Emissions 2021	10.705.656,94
Emissions 2024	6.304.309,59
Difference (%)	**- 41%**

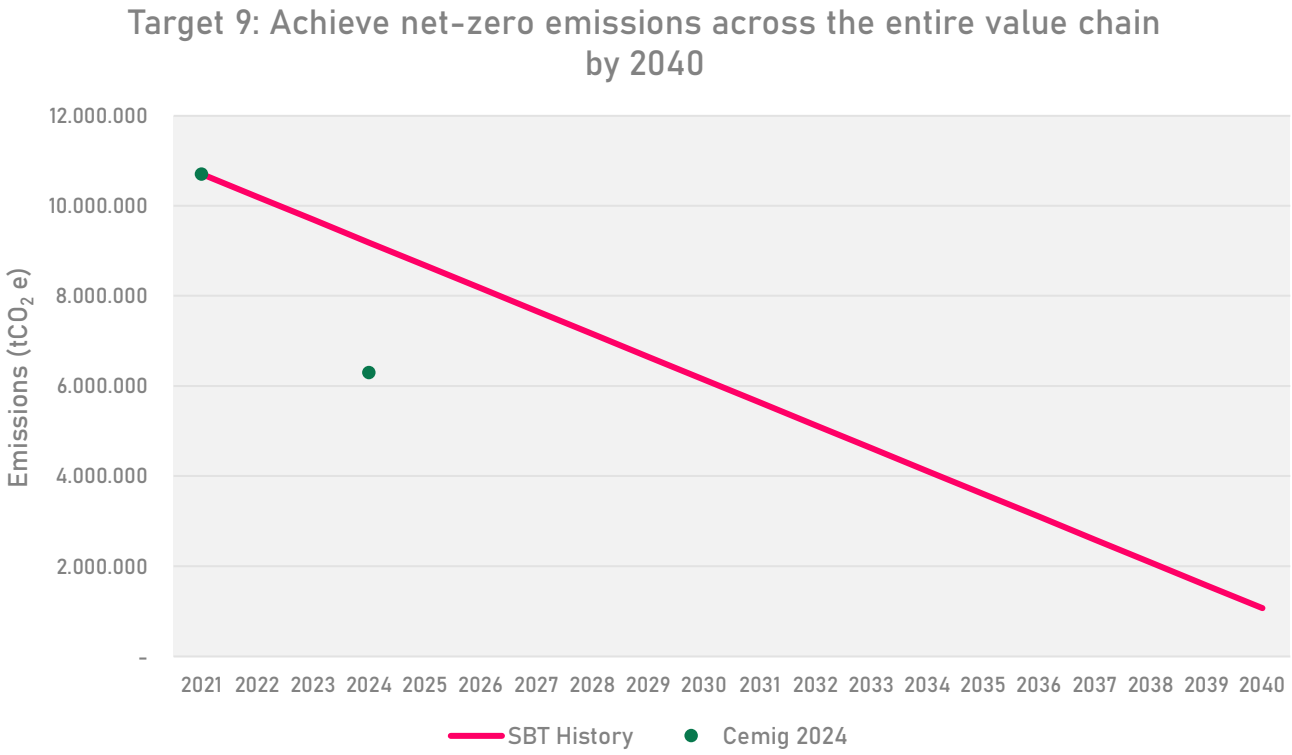

Figure 27 - Cemig's results for Targets 4 and 8 compared to the SBT target trajectory

It is important to note that, in order to make it possible to achieve these ambitious targets, Cemig drew up its Climate Action Plan, structured in 2023 in a participatory manner, involving all areas of the company. The plan presents a set of concrete initiatives, such as:

- Decarbonization of the fleet, with the use of ethanol, biodiesel and electrification;
- Expansion of own consumption of 100% renewable energy;
- Reducing distribution losses and modernizing infrastructure;
- Certification of energy sold via RECs;
- Engagement with the supply chain to reduce indirect emissions;
- Expansion of energy efficiency projects and investments in technological innovation.

In addition to mitigation actions, the plan includes adaptation to physical and transition climate risks, governance aspects, internal incentives and the integration of the climate agenda into the company's strategy. The Climate Action Plan was built following the recommendations of the Transition Plan Taskforce (TPT), one of the main international references on the subject.

ANNEX I - TOTAL EMISSIONS IN TONS OF GAS AND TONS OF CO_2EQUIVALENT - 2024

Below are a series of tables detailing the results.

Table 23 - Cemig - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	33.267,65	376.174,25	5.908.673,75
CH_4	15,45	-	41,06
N_2O	0,92	-	5,23
HFCs	0,51		-
PFCs	-		-
SF_6	0,34		-
NF_3	-		-

Table 24 - Cemig - Emissions in metric tons of CO_2 equivalent (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	33.267,65	376.174,25	5.908.673,75
CH_4	432,72	-	1.149,71
N_2O	244,89	-	1.385,90
HFCs	978,22		-
PFCs	-		-
SF_6	7.937,34		-
NF_3	-		-
TOTAL	**42.860,81**	**376.174,25**	**5.911.209,36**

Table 25 - Cemig - Biogenic emissions (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	96.313,89	-	6.877,37
CH_4			
N_2O			
HFCs			
PFCs			
SF_6			
NF_3			
TOTAL	**96.313,89**	**-**	**6.877,37**

Table 26 – Cemig – Emissions of other GHGs not regulated by the Kyoto Protocol.

GEE	GHG emissions (t)	Emissions in tCO_2e
CFC-11	-	-
CFC-12	-	-
CFC-13	-	-
CFC-113	-	-
CFC-114	-	-
CFC-115	-	-
Halon-1301	-	-
Halon-1211	-	-
Halon-2402	-	-
Carbon tetrachloride (CCl_4)	-	-
Bromomethane (CH_3Br)	-	-
Methyl chloroform (CH_3CCl_3)	-	-
HCFC-21	-	-
HCFC-22 (R22)	0,56	991,39
HCFC-123	-	-
HCFC-124	-	-
HCFC-141b	-	-
HCFC-142b	-	-
HCFC-225ca	-	-
HCFC-225cb	-	-

Table 27 – Scope emissions by operating unit.

Operational **Unit**	Scope 1	Scope 2	Scope 3	Total (tCO_2e)	Representativeness (%)
Cemig D	34.542,09	366.254,43	1.360.018,85	1.760.815,38	27,82%
Cemig GT	4.173,32	9.615,97	1.131.691,14	1.145.480,43	18,10%
Camargos	7,15	0,28	8.352,65	8.360,08	0,13%
Horizons	-	0,28	134,41	134,69	0,00%
Itutinga	5,45	0,70	7.370,37	7.376,52	0,12%
East	2,37	1,26	7.350,41	7.354,05	0,12%
Oeste	7,65	1,80	3.107,51	3.116,95	0,05%
Parajuru	915,11	0,00	0,95	901,96	0,01%
PCH	1,30	0,65	5.778,18	5.780,13	0,09%
Poço Fundo	2,83	0,89	8.049,51	8.053,23	0,13%
Rosal	27,62	0,19	12.977,55	13.005,36	0,21%
Sa Carvalho	2,84	4,54	25.450,87	25.458,25	0,40%
Sul	12,55	7,45	8.930,94	8.950,94	0,14%
Volta do Rio	850,17	6,10	2,61	858,88	0,01%
Cemig SIM	0,57	7,52	43,22	51,32	0,00%

Operational **Unit**	**Scope 1**	**Scope 2**	**Scope 3**	**Total (tCO_2e)**	**Representativeness (%)**
Cemig H	-	5,00	1.077.849,60	1.077.854,61	17,03%
Centroeste	814,44	253,63	-	1.068,06	0,02%
Gasmig	1.495,33	12,42	2.086.248,35	2.087.756,11	32,98%
Cemig Trading	-	0,37	4.783,98	4.784,36	0,08%
UFV Boa Esperança	-	0,38	163.068,25	163.068,63	2,58%
ESCEE	-	0,37	-	0,37	0,00%
TOTAL	**42.860,81**	**376.174,25**	**5.911.209,35**	**6.330.244,42**	**100%**

Cemig D

Table 28 - Cemig D - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	30.330,22	366.254,43	1.359.249,11
CH_4	0,99	-	9,00
N_2O	0,72	-	1,95
HFCs	0,41		-
PFCs	-		-
SF_6	0,14		-
NF_3	-		-

Table 29 - Cemig D - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	30.330,22	366.254,43	1.359.249,11
CH_4	27,63	-	252,01
N_2O	189,96	-	517,74
HFCs	782,57		-
PFCs	-		-
SF_6	3.211,72		-
NF_3	-		-
TOTAL	**34.542,09**	**366.254,43**	**1.360.018,85**

Cemig GT

Table 30 - Cemig GT - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	975,89	9.615,97	1.131.671,97
CH_4	0,18	-	0,09

GEE	Scope 1	Scope 2	Scope 3
N_2O	0,09	-	0,06
HFCs	0,10		-
PFCs	-		-
SF_6	0,13		-
NF_3	-		-

Table 31 - Cemig GT - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	975,89	9.615,97	1.131.671,97
CH_4	4,99	-	2,40
N_2O	24,05	-	16,77
HFCs	195,64		-
PFCs	-		-
SF_6	2.972,75		-
NF_3	-		-
TOTAL	**4.173,32**	**9.615,97**	**1.131.691,14**

Gasmig

Table 32 - Gasmig - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	1.093,96	12,42	2.084.506,40
CH_4	14,28	-	31,95
N_2O	0,01	-	3,20
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 33 - Gasmig - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	1.093,96	12,42	2.084.506,40
CH_4	399,70	-	894,70
N_2O	1,67	-	847,25
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**1.495,33**	**12,42**	**2.086.248,35**

Centroeste

Table 34 - Centroeste - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	814,44	253,63	-
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 35 - Centroeste - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	814,44	253,63	-
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**814,44**	**253,63**	-

Cemig SIM

Table 36 - Cemig SIM - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	0,38	7,52	42,82

GEE	Scope 1	Scope 2	Scope 3
CH_4	0,00	-	0,00
N_2O	0,00	-	0,00
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 37 - Cemig SIM - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	0,38	7,52	42,816225
CH_4	0,14	-	0,048944
N_2O	0,05	-	0,35669
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**0,57**	**7,52**	**43,22**

Cemig H

Table 38 - Cemig H - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	5,00	1.077.845,73
CH_4	-	-	0,02
N_2O	-	-	0,01
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 39 - Cemig H - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	5,00	1.077.845,73
CH_4	-	-	0,55
N_2O	-	-	3,32
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	-	**5,00**	**1.077.849,60**

Cemig Trading

Table 40 - Cemig Trading - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	0,37	4.783,98
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 41 - Cemig Trading - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	0,37	4.783,98
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	-	**0,37**	**4.783,98**

SPE - Camargos

Table 42 - Camargos - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	6,95	0,28	8.352,61
CH_4	0,002	-	-
N_2O	0,001	-	0,0001
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 43 - Camargos - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	6,95	0,28	8.352,61
CH_4	0,06	-	-
N_2O	0,14	-	0,03
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**7,15**	**0,28**	**8.352,65**

SPE – Horizontes

Table 44 - Horizontes - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	0,28	134,41
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 45 - Horizontes - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	0,28	134,41
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-

GEE	Scope 1	Scope 2	Scope 3
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**0,00**	**0,28**	**134,41**

SPE - Itutinga

Table 46 - Itutinga - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	5,14	0,70	7.370,34
CH_4	0,002	-	-
N_2O	0,001	-	0,0001
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 47 - Itutinga - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	5,14	0,70	7.370,34
CH_4	0,05	-	-
N_2O	0,27	-	0,03
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**5,45**	**0,70**	**7.370,37**

SPE - Leste

Table 48 - Leste - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	0,91	1,26	7.350,41
CH_4	0,00003	-	-
N_2O	0,006	-	-
HFCs	-		-
PFCs	-		-

GEE	Scope 1	Scope 2	Scope 3
SF_6	-		-
NF_3	-		-

Table 49 - Leste - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	0,91	1,26	7.350,41
CH_4	0,001	-	-
N_2O	1,46	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**2,37**	**1,26**	**7.350,41**

SPE - Oeste

Table 50 - Oeste - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	7,47	1,80	3.107,46
CH_4	0,0006	-	-
N_2O	0,001	-	0,0002
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 51 - Oeste - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	7,47	1,80	3.107,46
CH_4	0,016	-	-
N_2O	0,16	-	0,05
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**7,65**	**1,80**	**3.107,51**

SPE - Parajuru

Table 52 - Parajuru - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	3,95	-	0,95
CH_4	0,0003	-	-
N_2O	0,000	-	-
HFCs	-		-
PFCs	-		-
SF_6	0,04		-
NF_3	-		-

Table 53 - Parajuru - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	3,95	-	0,95
CH_4	0,008	-	-
N_2O	0,06	-	-
HFCs	-		-
PFCs	-		-
SF_6	911,01		-
NF_3	-		-
TOTAL	**915,11**	**0,00**	**0,95**

SPE - PCH

Table 54 - PCH - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	1,30	0,65	5.778,18
CH_4	0,000003	-	-
N_2O	0,000003	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 55 - PCH - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	1,30	0,65	5.778,18
CH_4	0,0001	-	-
N_2O	0,0008	-	-

GEE	Scope 1	Scope 2	Scope 3
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**1,30**	**0,65**	**5.778,18**

SPE - Poço Fundo

Table 56 - Poço Fundo - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	0,76	0,89	8.049,51
CH_4	-	-	-
N_2O	0,008	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 57 - Poço Fundo - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	0,76	0,89	8.049,51
CH_4	-	-	-
N_2O	2,07	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**2,83**	**0,89**	**8.049,51**

SPE - Rosal

Table 58 - Rosal - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	6,83	0,19	12.977,55
CH_4	0,0009	-	-
N_2O	0,08	-	-
HFCs	-		-
PFCs	-		-

GEE	Scope 1	Scope 2	Scope 3
SF_6	-		-
NF_3	-		-

Table 59 - Rosal - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	6,83	0,19	12.977,55
CH_4	0,02	-	-
N_2O	20,76	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**27,62**	**0,19**	**12.977,55**

SPE - Sá Carvalho

Table 60 - Sá Carvalho - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	2,57	4,54	25.450,87
CH_4	0,002	-	-
N_2O	0,001	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 61 - Sá Carvalho - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	2,57	4,54	25.450,87
CH_4	0,04	-	-
N_2O	0,23	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**2,84**	**4,54**	**25.450,87**

SPE - Sul

Table 62 - Sul - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	8,65	7,45	8.930,72
CH_4	0,001	-	-
N_2O	0,01	-	0,0009
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 63 - Sul - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	8,65	7,45	8.930,72
CH_4	0,02	-	-
N_2O	3,88	-	0,23
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**12,55**	**7,45**	**8.930,94**

SPE - Volta do Rio

Table 64 - Volta do Rio - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	8,24	6,10	2,48
CH_4	0,001	-	0
N_2O	0,0005	-	0,0005
HFCs	-		-
PFCs	-		-
SF_6	0,04		-
NF_3	-		-

Table 65 - Volta do Rio - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	8,24	6,10	2,48
CH_4	0,04	-	-
N_2O	0,13	-	0,13
HFCs	-		-

GEE	Scope 1	Scope 2	Scope 3
PFCs	-		-
SF_6	841,77		-
NF_3	-		-
TOTAL	**850,17**	**6,10**	**2,61**

Electricity Supply Services Company

Table 66 - Empresa de Serviços de Comercialização de Energia Elétrica - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	0,37	-
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-

Table 67 - Electricity Supply Services Company - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	0,37	-
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**0,00**	**0,37**	**0,00**

UFV Boa Esperança

Table 68 - Boa Esperança - Emissions in metric tons, by type of GHG.

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	0,38	163.068,25
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-

GEE	Scope 1	Scope 2	Scope 3
SF_6	-		-
NF_3	-		-

Table 69 - Boa Esperança - Emissions in metric tons, by type of GHG (tCO_2e).

GEE	Scope 1	Scope 2	Scope 3
CO_2	-	0,38	163.068,25
CH_4	-	-	-
N_2O	-	-	-
HFCs	-		-
PFCs	-		-
SF_6	-		-
NF_3	-		-
TOTAL	**0,00**	**0,38**	**163.068,25**

ANNEX - DECLARATION OF VERIFICATION

BUREAU VERITAS Certification

Verification Statement

No 076/2025

This Verification Statement documents that **BVQI DO BRASIL SOCIEDADE CERTIFICADORA LTDA** performed verification activities in accordance with the Verification Specifications of the Brazilian GHG Protocol Program and ABNT NBR ISO 14064-3:2024 standard.

Reporting Organization:	Companhia Energética de Minas Gerais - CEMIG
VAT No:	17.155.730/0001-64
Address:	Av. Barbacena, 1200 – Santos Agostinho, Belo Horizonte MG, Brazil
Responsible:	Erika Silveira Torres
Email:	estorres@cemig.com.br

The Greenhouse Gas (GHG) emissions reported by the Reporting Organization in its emissions inventory, from January 1st to December 31st of 2024, are verifiable and comply with the requirements of the Brazilian GHG Protocol Program, detailed in the Specifications of the Brazilian GHG Protocol Program for Accounting, Quantification, and Publication of Corporate Greenhouse Gas Emissions Inventories (EPB).

Confidence Level

The Verification Body (VB) has assigned the following confidence level to the verification process:

☒	Verification with a **Reasonable Assurance**

"The greenhouse gas inventory of the Reporting Organization for the year **2024** is materially correct, represents a fair representation of GHG data and information, and has been prepared in accordance with the EPB."

Verification Scope

The inventory for the year **2024** of the Reporting Organization was verified within the following scope:

Organizational Boundaries	Operational Boundaries
☒ Operational control ☐ Equity share	☒ Scope 1 ☒ Scope 2 – Location-based approach ☐ Scope 2 – Market-based approach ☒ Scope 3
☐ Excluded from verification: N/A.	

BUREAU VERITAS

Page 1 / 4

BUREAU VERITAS Certification

Visited Facilities

Facility	Relationship with the Holding	Address	Date of Visit
CEMIG Holding	Headquarters	Av. Barbacena, 1200 - 18º andar, Santo Agostinho, Belo Horizonte, MG, 30190-131, Brazil	04/23/2025 04/24/2025
CEMIG Geração e Transmissão e SPEs – CEMIG GT	Controlled	Av. Barbacena, 1200, 17º andar, Ala A1, Santo Agostinho, Belo Horizonte, MG, 30190-131, Brazil	04/23/2025 04/24/2025
CEMIG Distribuição – CEMIG-D	Controlled	Av. Barbacena, 1200, 12º andar, Ala B1, Santo Agostinho, Belo Horizonte, MG, 30190-131, Brazil	04/23/2025 04/24/2025
GASMIG	Controlled	Av. Barbacena, 1200, 7º andar, Ala A1, Santo Agostinho, Belo Horizonte, MG, 30190-131, Brazil	04/23/2025 04/24/2025

Total Verified Emissions across the entire Organization - Operational Control approach

Greenhouse Gas emissions in metric tons of CO_2 equivalent (tCO_2e)				
GHG	**Scope 1**	**Scope 2** Location-based Approach	**Scope 2** Market-based Approach	**Scope 3** (if applicable)
CO_2	33,267.648	376,174.252	-	5,908,673.754
CH_4	432.715	-	-	1,149.707
N_2O	244.890	-	-	1,385.896
HFCs	978.218	-	-	-
PFCs	-	-	-	-
SF_6	7,937.337	-	-	-
NF_3	-	-	-	-
TOTAL	**42,860.807**	**376,174.252**	**-**	**5,911,209.357**
Biogenic CO_2	96,313.888	-	-	6,877.372

BUREAU VERITAS Certification

Total Verified Removals across the entire Organization - Operational Control approach

Biogenic CO_2 Removal (tCO_2e)				
GHG	**Scope 1**	**Scope 2** Location-based Approach	**Scope 2** Market-based Approach	**Scope 3** (if applicable)
Biogenic CO_2	2,107.128	-	-	-

Other Greenhouse Gases Not Covered by the Kyoto Protocol (tCO_2e)

GHG	Emission (tCO_2e)
HCFC-22 (R-22)	991.390

Conflict of Interest (COI)

I, **Rafael da Silva Caldeira**, certify that no conflict of interest exists between the Reporting Organization and **BVQI DO BRASIL SOCIEDADE CERTIFICADORA LTDA**, or any individuals on the verification team involved in the verification of the inventory, as defined in chapter 3.2.1 of the Verification Specifications of the Brazilian GHG Protocol Program.

Rafael da Silva Caldeira, Lead Verifier

Date: 05/13/2025

BUREAU VERITAS
Certification

Conclusion

As those responsible for the verification activities of the GHG inventory of the Reporting Organization, we certify that the information contained in this document is true.

Rafael da Silva Caldeira, Lead Verifier — Date: 05/13/2025

Mariana de Oliveira Klein, Independent Reviewer — Date: 05/14/2025

Review (if applicable)

Version:	00
Date:	05/16/2025
Review:	Issue

Camila Chabar

Camila Pavão Chabar
Executive Manager of Sustainability

Local Office: Alameda Xingu, 200, Conj. 301-302-303-304
Alphaville Centro Industrial e Empresarial/Alphav
Barueri, SP, 06455-030, Brazil

Verificação e Validação de Inventários de Gases de Efeito Estufa
OVV 0017

BUREAU VERITAS

REFERENCES

IPCC. (2021). *Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.* Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 3-32, doi:10.1017/9781009157896.001. .

Lynas, M. H. (2021). *Greater than 99% consensus on human caused climate change in the peer-reviewed scientic literature.* . Environ. Res. Lett. 16, 114005.

Brazilian GHG Protocol Program - Accounting, Quantification and Publication of Corporate Greenhouse Gas Emissions Inventories. Available at: https://eaesp.fgv.br/centros/centro-estudos-sustentabilidade/projetos/programa-brasileiro-ghg-protocol. Accessed on: 10 Apr. .2024

World Resources Institute Brazil. GHG Protocol. Available at: https://www.wribrasil.org.br/projetos/ghg-protocol. Accessed on: 10 Apr. .2024

Elaborated by

Minas Gerais Energy Company
https://www.cemig.com.br/
Avenida Barbacena, 1200 - Santo Agostinho – Belo Horizonte/MG