Greenhouse Gas Inventory
Year 2014

Cemig - Companhia Energética de Minas Gerais

A Melhor Energia do Brasil.

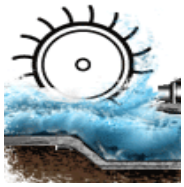
Summary

1. Cemig

In 2014, Cemig completed 62 years of operation. Since its founding, on May 22nd, 1952, the Company assumed the role of bringing collective well-being to the regions where it operates, in an innovative and sustainable manner. This determination led it to the condition of largest power distributor in extension of line and grids, being one of the largest companies of power generation and transmission in the country.

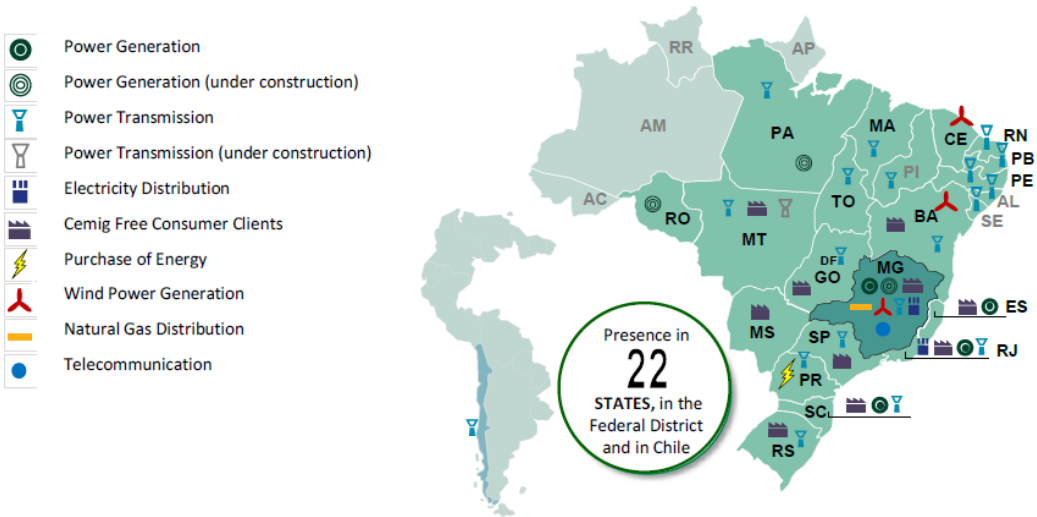
The Company operates in areas of natural gas exploration and distribution, and data transmission, but the main areas of Cemig's business are the generation, transmission and distribution of electric energy, and energy solutions (Table 1).

Table 1 - Main areas of Cemig's business

				
Generation	**Transmission**	**Distribution**	**Gas**	**Commercialization**
Installed capacity: 7,717MW	Exetension of lines: 9,748 km	Extension of grids: 525,224 km	1,531 million m3 of gas sold	Approximately 22% of participation in the market

Cemig counts on 7,922 direct employees (base Dec/2014). The group consists of the *holding* company, Companhia Energética de Minas Gerais - Cemig, the wholly-owned subsidiaries Cemig Geração e Transmissão S.A. (Cemig GT) and Cemig Distribuição S.A. (Cemig D), totalling 206 Companies, 18 Consortiums, and 2 FIPs (Equity Investment Funds), resulting in assets present in 23 Brazilian states (including the Federal District) and in Chile. Figure 1 shows the location of Cemig's activities, according to the main segments of activity.

Figure 1: Map of geographic location of the Company's main activities



For more detailed description of Cemig's business, access here.

See the full organizational chart of the Cemig Group companies.

2. About the inventory

In accordance with guidelines of the corporate document "Commitment to Climate Changes", Cemig invests in initiatives that position itself positively in the efficient management of its impacts and its exposure to the risks of global climate change. Thus, in its strategy, the company includes actions and initiatives necessary for prevention and minimization of impacts resulting from its activities; develops measures for adapting to climate change, aiming to minimize its risks, broadly communicating and disclosing, to society and to shareholders, the issues related to the topic. In this sense, Cemig quantifies its emissions and makes public, for the fourth consecutive time, its Greenhouse Gas Inventory, recognizing its share of responsibility on the topic and identifying opportunities to reduce emissions and costs, properly managing its risks related to climate change. It is emphasized that these last four inventories underwent an independent verification conducted, in this case, by the Bureau Veritas Certification (Annex 1 - Verification Statement, page 23).

The present inventory performed for the year of 2014 has been prepared according to these guidelines:

- ABNT NBR ISO 14064-1 - Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.
- Specifications of the GHG Protocol Brazilian Program - Accounting, Quantification and Publishing Corporate Inventories of Greenhouse Gas Emissions - Second Edition.
- Intergovernmental Panel on Climate Change (IPCC) 2006, 2007, IPCC Guidelines for National Greenhouse Gas Inventories, prepared by the National Greenhouse Gas Inventories Program.
- "The Greenhouse Gas Protocol - a Corporate Accounting and Reporting Standard" - Revised edition.
- Corporate Value Chain (Scope 3) Accounting and Reporting Standard - Supplement to the GHG Protocol Corporate Accounting and Reporting Standard (WRI / WBCSD).

3. Methodology applied

For the calculation of GHG emissions, the "Estimating tool of greenhouse gases for intersectorial sources" was used (GHG Protocol Tool) - Brazilian version, "Ferramenta v2014.0".

The choice of calculation methodology derived mainly from the internal assessment about availability of data and specific emission factors, so as to present more transparent results, compatible with the reality of the electricity sector, as well as

aligned with the Brazilian reality. The national specific and recognized GHG emission factors were adopted, as a principle of applicability, followed by the emission factors of the Intergovernmental Panel on Climate Change - IPCC (1996, 2001, 2006 & 2007). The data referred for calculation of Scopes 1, 2 and 3 were surveyed through a centralized approach, with the parties responsible for their management, and with the following means of determination having been used:

- Records existing in Cemig's ERP system;
- Records in operational systems and corporate control;
- Invoices;
- Contracts;
- Record spreadsheets.

It is important to emphasize that the areas responsible for information are certified in management standards internationally referenced as NBR ISO 9001/2008 and/or NBR ISO 14001/2004, and SGA Level 1 (for units that do not have environmental license), all of them audited internally and by a third-part certification body.

Given the complexity for gathering some data, especially for the calculation of emissions, further explanation is needed in these cases, as described below.

For estimating the percentage of losses of SF_6, the factor of 0.71[1]% per year was used, bibliographic data acceptable to the Company's operating sector.

Regarding the calculation of the distance between airports in the category "Business trips - Scope 3", SABRE Red Workspace system, version v.2.10.1. developed by SABRE Inc.,was used.

Cemig receives the calculations of energy losses in Transmission, values verified externally and assigned to its responsibility, accounted by CCEE (Chamber of Electric Energy Commercialization). For calculations of energy losses in Distribution, Cemig determines data through the Procedure of Electric Energy Distribution in the National Electric System - PRODIST, Module 7 - Calculation of Distribution Losses.

4. Period Covered

The quantification of emissions resulting from activities performed directly and indirectly by Cemig corresponds to the period between January 1st, 2014 and December 31st, 2014. The historical base-year that was chosen and referenced for the calculations, including for the establishment of the corporate goal of reducing Scope 1 emissions, is 2008.

[1] E.Preisegger, R.Dürschner, W.Klotz, C.- A.König, H.Krähling, C.Neumann, B Zahn. Life Cycle Assessment Electricity Supply Using SF6 Technology. Available at http://www.denix.osd.mil/cmrmd/upload/Life-Cycle-Assessment-SF6-Preisegger-at-al.pdf

5. Organizational and geographical limits

For reporting purposes, in this inventory, Cemig has adopted the Operational Control approach, *i.e.*, quantified emissions from companies in which Cemig owns 100% of control. All these companies are in Brazilian territory. For the purpose of clarity, all international travel considered for calculating emissions have sections with departure or arrival in Brazil.

The ten companies fully controlled by Cemig, covered in this inventory, are listed in Table 2.

Table 2 - Companies fully controlled by Cemig

1	Cemig Geração e Transmissão S.A. (Cemig GT)
2	Cemig Distribuição S.A. (Cemig D)
3	Rosal Energia S.A.
4	Sá Carvalho S.A.
5	Efficientia S.A.
6	Usina Térmica Ipatinga S.A.
7	Cemig PCH S.A.[2]
8	Horizontes Energia S.A.[3]
9	Usina Térmica do Barreiro S.A.
10	Cemig Telecomunicações S.A.

6. Operational limits and emission sources

The table 3 lists the greenhouse gas emission sources and their respective categories.

[2] Four Small Hydroelectric Plants (SHP) operated by Cemig GT. The emissions are accounted for by Cemig GT.
[3] Small Hydroelectric Plant operated by Cemig GT. The emissions are accounted for by Cemig GT.

Table 3 - Emission sources and category

SCOPE 1	
Emission sources	**Category**
Fuel consumption of the corporate fleet	Mobile combustion
Consumption by aircraft and small boats	Mobile combustion
Emergency generators	Stationary combustion
Fuel used at startup and operation of process gas thermal power plant (TPP Barreiro)	Stationary combustion
Fuel used at startup and operation of process gas thermal power plant (TPP Ipatinga)	Stationary combustion
Fuel used at TPP Igarapé	Stationary combustion
Machinery and equipment	Stationary combustion
SF6 emissions from electrical equipment	Fugitive emissions
Gas emissions from refrigeration and air-conditioning equipment	Fugitive emissions
Fertilizers used in the production of seedlings and plantings	Agricultural activities
Fuels used in forklifts and cranes	Stationary combustion
SCOPE 2	
Emission sources	**Category**
Electrical energy consumption in administrative and operational units	Electrical energy purchase
Technical losses of electric energy in Transmission and Distribution systems	Electrical energy purchase
SCOPE 3	
Emission sources	**Category**
Outsourced transportation of materials, solid waste and equipment	Upstream Transportation and Distribution
Air travel	Business travel
Consumption of gasoline, alcohol and diesel oil by Distribution contractors	Downstream Transportation and Distribution
Electric energy consumption by end consumers	Use of goods and services sold
Outsourced transportation of employees	Transfer of workers

It is noteworthy that, in this inventory, the contribution of the hydroelectric plant reservoirs to climate change has not been evaluated due to the lack of a scientific conclusion about their relationship with emissions of greenhouse gases. Methodologies and conceptual models universally accepted, and with credibility, are not available to quantify the emissions of GHG in reservoirs.

7. GHG Emissions

In Table 4, Cemig presents detailing on emissions of Scope 1, Scope 2 and Scope 3, also allowing a historical review of seven years (2008/2014). Comments about the performance of emissions are described in the subsequent items.

Table 4 - History of GHG emissions - Scopes 1, 2 and 3 - 2008 to 2014

Year	Scope 1 (t CO_2e)	Scope 2 (t CO_2e)	Scope 3 (t CO_2e)
2008	287,307	282,439	NA
2009	111,758	390,039	NA
2010	59,642	295,478	4,937,535
2011	24,384	168,189	5,202,775
2012	53,567	436,750	5,341,863
2013	156,618	608,971	7,658,967
2014	**617,717**	**858,014**	**11,332,770**

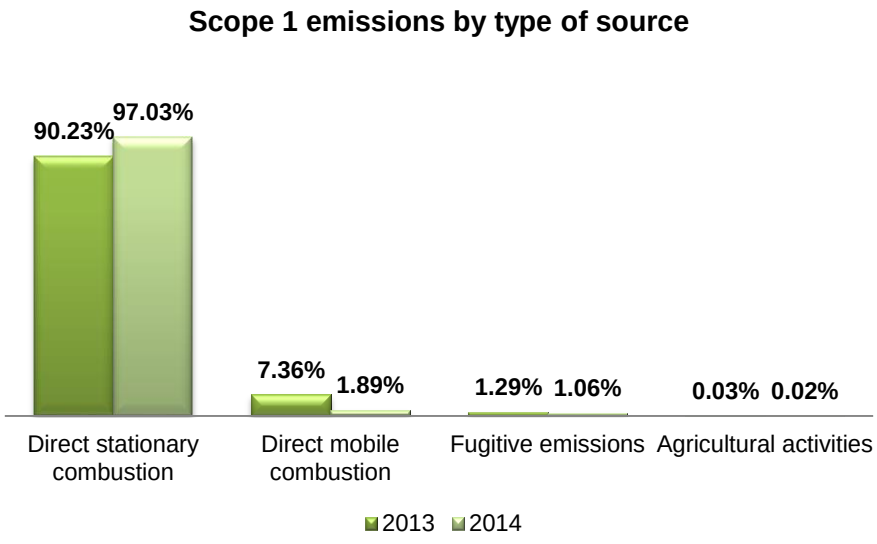
7.1 Scope 1 Emissions

Scope 1 emissions, in 2014, were 617,717 tCO_2e: being 11,688 tCO_2e resulting from the fleet of vehicles and aircraft; 6,529 tCO_2e of fugitive emissions from SF_6 gas present in electric equipment; 577,458 tCO_2e from the Igarapé Thermal Power Plant; 21,316 tCO_2e from the Barreiro Thermal Power Plant start-up; 40 tCO_2e from the use of emergency generators; 585 tCO_2e from the use of machines and forklifts; and 101 tCO_2e resulting from the use of fertilizers.

The intensity of Cemig's direct emissions was 0.023467 tCO_2e/MWh.

Figure 2 presents the emission sources of Scope 1 by type of source and the contribution compared to the total, referring to the years of 2013 and 2014.

Figure 2 - Direct emissions by type of source between 2013 and 2014, Scope 1



7.1.1 Stationary Combustion

At Cemig, these stationary emissions originate mainly from its three thermal power plants (99.9%), and machinery, equipment and emergency generators (0.1%). TPP Igarapé (131 MW) operates to serve contingencies of the Brazilian Interconnected Power System and, in 2014, was responsible for 93.5% of Scope 1 emissions, a variation of 10.1% compared to 2013. This increase is due to its use for generation throughout the year.

For better comparison of data, one emphasizes that the Scope 1 emissions in 2010, 2011, 2012 do not account the consumption of TPP Igarapé, because in 2010 and 2011 the plant was not dispatched and, in 2012, it was shut down for reformation. In 2013, TPP Igarapé consumption returned to be recorded again, because it was under commissioning of equipment, which resulted in fuel consumption, without necessarily generating energy.

It is noteworthy that the energy dispatch decision in Brazil (composition of hydrothermal generation each week) is made by the National Electric System Operator (ONS) based on prospective analysis of forecasting of future inflows scenarios, growth expectations of energy consumption and definition of a schedule for the expansion of new plants. In periods of favorable hydrology and high levels of water storage in system reservoirs, the decision of generation in thermal power plants is minimized, giving priority to hydroelectric generation. ONS, in case of unfavorable hydrology and low storage levels, as occurred in 2014, or even to increase the market supply guarantee with uncertainty in the generation expansion works, tends to increase thermal generation and, consequently, reduce hydroelectric generation, in order to rise the water storage levels of the flow-regulating reservoirs system.

The other two thermal plants, TPP Ipatinga (40 MW) and TPP Barreiro (12.9 MW), use blast furnace gases, tar and other waste gases generated in steelmaking processes as main fuels. The consumption of fossil fuels [fuel oil and natural gas (GN) in the TPPs Ipatinga and Barreiro, respectively] occurs on machinery start-up or, eventually, on the drop of high source gas supply by steel mills. In 2014, TPP Ipatinga did not use fossil fuels, as it used coke-oven gas. Natural gas consumption at TPP Barreiro increased from 5,065,350 Nm^3 in 2013 to 10,302,820 Nm^3 in 2014, representing an increase of 103.4%, mainly due to the reduction of process gas availability.

It is also worth mentioning that gases reused from the steelmaking process and which are burned in TPP Ipatinga and TPP Barreiro are not recorded here. This is due to:

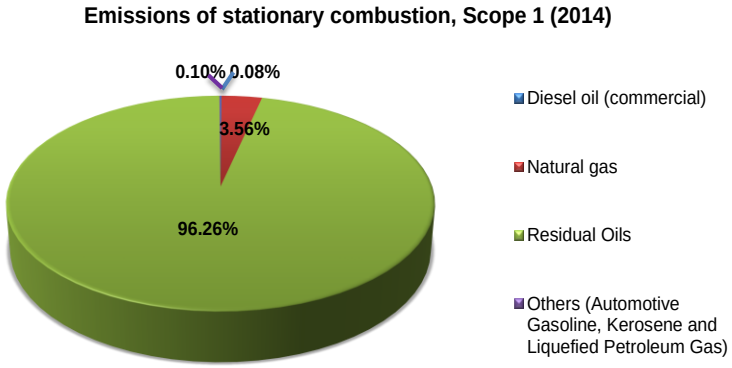
I) In case of TPP Ipatinga, the gases come from the Usiminas production process, resulting from the coking of mineral coal and the use of coke in the company's blast furnaces. Although the gases are of fossil origin, their emission is already recorded in the Usiminas's inventory, thus the accounting of these emissions here would result in double accounting, a fact to be avoided as good practice; and

II) In the case of TPP Barreiro, similarly, those gases are generated in the Vallourec's production process and recorded in the inventory of this company. In addition to this fact, these gases are generated by the use of charcoal produced in

planted forests, *i.e.*, wood from a sustainable source; therefore, these emissions are considered neutral.

Figure 3 shows GHG emissions by fuel used.

Figure 3 - Emissions of stationary combustion, Scope 1

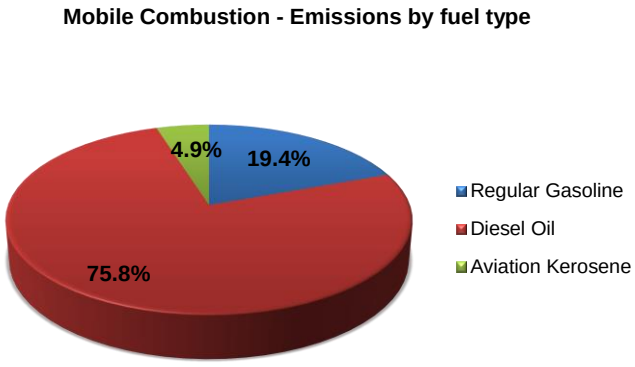


7.1.2 Mobile Combustion

Aiming at reducing emissions resulting from mobile combustion processes through logistic optimization measures, management and fleet renewal, and reduction in sections traveled, Cemig obtained a cumulative reduction of 18.3% of emissions during the period of 2010-2014. Compared to 2013, emissions coming from the fleet reduced from 11,765 tCO_2e to 11,688 tCO_2e in 2014, precisely in view of the measures that have been adopted for more efficient fleet management.

These emissions refer to the consumption of gasoline, ethanol, diesel, VNG (Vehicular Natural Gas), and aviation fuel of Cemig's fleet. As illustrated in Figure 4, the largest contribution (75.8%) for mobile emissions comes from diesel vehicles.

Figure 4 - Emissions by fuel used, Scope 1



7.1.3 Fugitive Emissions

Cemig's fugitive emissions come from the gas SF_6 used in electric equipment as insulation or to extinguish electric arcs in the Transmission and Distribution of electric power. In 2013, the fugitive emissions referring to SF_6 were 3,493 tCO_2e and in 2014, 6.530 tCO_2e, presenting a variation of 87%. This variation is mainly due to three incidents with total leakage of the SF_6 contained in the respective equipment.

7.1.4 Agricultural Activities

Emissions resulting from Cemig's agricultural activities are characterized by the use of organic or chemical fertilizers in the production of native species seedlings (and others) for urban afforestation, riparian planting and as nutrients used for fish farming. In comparison, between 2013 and 2014, the figures increased from 45 tCO_2e to 101 tCO_2e, presenting a variation of 124%, resulting from the intensification of these activities.

7.2 Scope 2 emissions

Scope 2 emissions refer to the consumption of electric power used in industrial and administrative facilities, coming from the National Interconnected System (SIN), and to the loss of energy in Transmission and Distribution (T&D) in the electric system; the latter is the Company's main source of emission. As described in the item Methodology, energy losses are calculated using an energy balance verified according to Aneel standard procedures. By way of comparison, it is noteworthy that the Scope 2 emissions are strongly influenced by changes in the electric power emission factor of SIN[4], which varies in view of a higher or lower dispatch of thermal plants throughout the year (Table 5).

Table 5 - History of the National Interconnected System Emission Factors

Year	tCO_2/MWh (Annual Average)
2010	**0.0513**
2011	**0.0292**
2012	**0.0686**
2013	**0.0960**
2014	**0.1355**

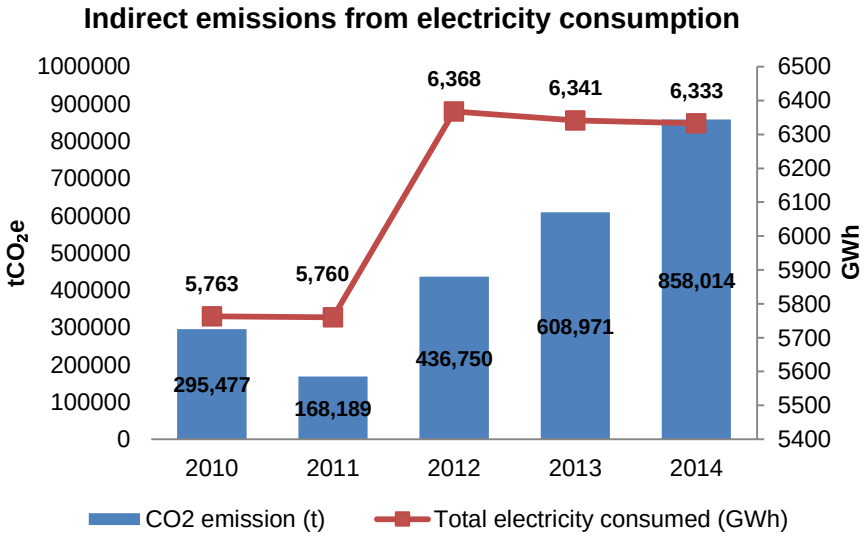
Of the total Scope 2 emissions, in 2014, 0.8% (6,908 tCO_2e) resulted from energy consumption and 99.2% (851,106 tCO_2e), from technical losses.

The total Scope 2 emissions, Figure 5, increased from 608,971 tCO_2e to 858,014 tCO_2e between 2013 and 2014, despite the losses having reduced from 6,341 GWh

[4] http://www.mct.gov.br/index.php/content/view/321144.html#ancora

to 6,333 GWh.

Figure 5 - Indirect emissions from electricity consumption, Scope 2



The main actions taken to minimize emissions related to energy losses in T&D are described in the item Corporate Goals.

7.3 Scope 3 emissions

Cemig seeks continuous improvement of the Scope 3 emissions inventory, introducing new emission sources, always according to the assessment of the level of availability, quality, veracity, and traceability of such data coming from third parties. Table 6 shows Scope 3 emissions by emitting activity.

Table 6 - GEE Emissions in tCO_2e by emitting activity of Scope 3

GHG emissions (t CO_2e)	2011	2012	2013	2014
Transportation of materials, equipment, waste, and transfer of workers	1,618	2,874	2,035	1,403
Business travelling	1,786	1,953	1,691	1,361
Energy Sale (Use of goods and services sold)	5,199,371	5,321,724	7,643,677	11,324,277

The main source of Scope 3 emissions is the consumption of electric power by end consumers. In 2014, Cemig recorded an increase of 5% in the total sales, which generated an increase of 48.2% in indirect emissions, highlighted, of course, by an increase in the SIN emission factor, from 0.1355 tCO_2/MWh in 2014 to 0.0960 tCO_2/MWh in 2013. The emission factor was used because the energy Cemig dispatched to the Interconnected System also comprises this calculation made by the Ministry of Science and Technology, although the Company emission factor is lower than that of the Brazilian Matrix.

Representing 0.01% of indirect emissions, business travelling was responsible for

1,361 tCO_2e. It is verified that the reduction of 19.5% in the respective emissions was consequence of a reduction in the respective emission factor[5].

From other emitting sources, 817 tCO_2e came from transportation of materials, equipment and waste; 586 tCO_2e came from transportation of employees; a reduction of approximately 31.6% and 30.3% compared to 2013, respectively.

Emissions from contractors' vehicles that provide operation and maintenance services for Cemig Distribuição totaled 5,729 tCO_2e from 6 contractors. It should be noted that the participation and contribution with information by contractors is voluntary. It is noteworthy that the Company continues to develop the engagement Program with its suppliers regarding climate issues.

Program for carbon management in the value chain

In relation to the engagement with suppliers, within the 3rd Edition of Carbon Management in the Value Chain Program of the CTClima (Climate Change Working Group) of CEBDS (Brazilian Business Council for Sustainable Development), the representative of Brazil for the World Business Council for Sustainable Development (WBCSD) since 2012, Cemig has started to incorporate GHG emission inventories from suppliers to compose the Company information base. The goal is to seek engagement, particularly with suppliers which further impact on Cemig's emissions, for the preparation and publication of GHG inventories, by raising awareness and training for the selected suppliers.

Engagement methods: selected suppliers have been invited to participate in workshops, with the main objective to raise awareness about the need for adaptation of the business management in face of climate changes. Additionally, aiming at technical training for preparation of GHG inventories, the workshops introduced the calculating tool of the Brazilian GHG Protocol Program and its use, prioritizing the definition of operating limits, identification and classification of the main emission sources, and classification of emissions sources among the three scopes. Workshops were conducted during the period from April thru June 2014 in six different locations.

Strategy for prioritizing engagements: 50 of Cemig's suppliers were invited to participate in the Program, giving priority to small and medium-size suppliers, which need support to develop the GHG inventory.

Measures of success: considering all suppliers of the companies participating in the third edition of the CEBDS Program, 35% of them participated in the workshops held in 2014, which corresponds to 123 companies, representing an increase of 22% in relation to the 2nd edition in 2013 (it should be noted that Cemig participated only in the 2nd and 3rd edition).

From these 123 suppliers, 33 of them completed their emission inventories, and 4 are in the process of development, an increase of approximately 10% in relation to the 2013 edition. The measures of success Cemig has been using for this program are the participation of invited suppliers in workshops and the preparation of GHG inventories by these suppliers after this training. Cemig continues with the project,

[5] Updating of emission factors for air travel in the GHG Protocol Tool - Brazilian version, "Ferramenta v2014.0". This change affects calculations for all modals available in the Business Travel tool.

and in 2015 will conduct workshops for raising awareness and training 50 more suppliers.

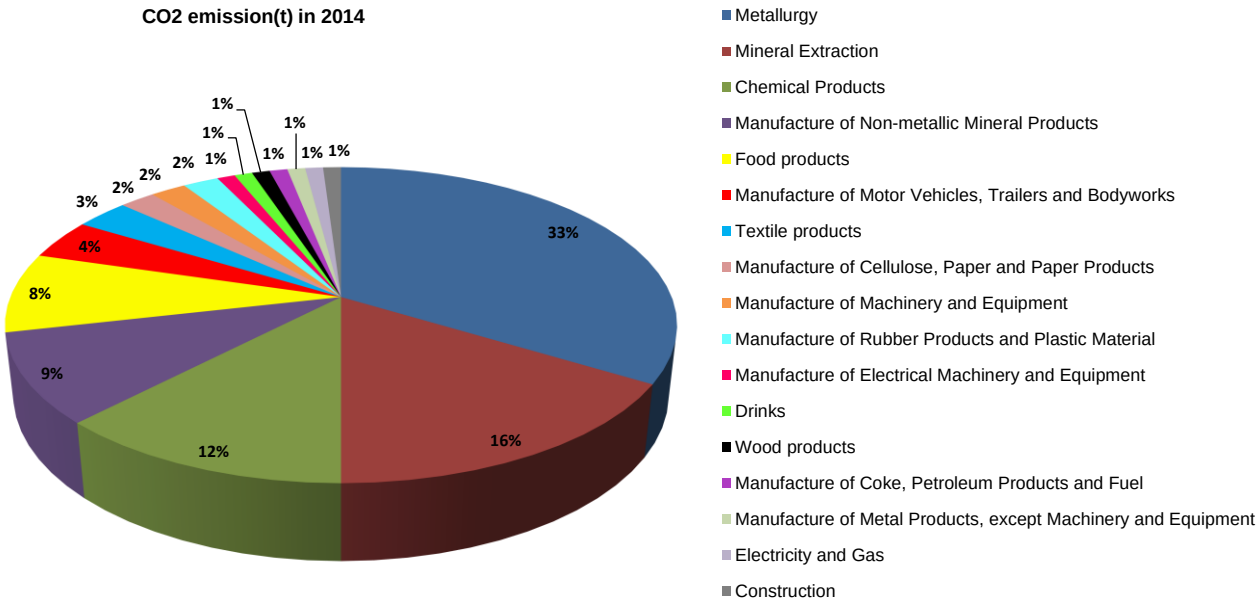
7.3.1 Emissions from energy consumption by third parties

The energy sold by Cemig corresponds to: the sale of energy to captive consumers and free clients in the concession area in Minas Gerais State and out of the State; the marketing of energy to other agents of the electricity sector in the ACR (Regulated Contracting Environment) and the ACL (Free Contracting Environment); and the sales in the Proinfa (Program of Incentives for Alternative Electricity Sources) and in the CCEE (Chamber of Electric Energy Commercialization), eliminating the existing transactions between companies of the Cemig Group.

Amongst all the sectors with which Cemig commercializes energy, the industrial sector is the largest consumer. Figure 6 presents a qualitative analysis of CO_2 emissions from Cemig's electrical energy consumption. To calculate these emissions, the sector's energy consumption and the emission factor of the National Interconnected System were used.

The CO_2 emission by the Metallurgical Industry accounted for 33% of the total emissions from industrial clients in 2014 (Figure 6).

Figure 6 - Percentage of CO_2 emissions by Industrial Class, in the year of 2014



8. Total Emissions

Table 7 shows the total emissions of Cemig, detailed for the ten companies integrating the present inventory.

Table 7 - Emissions broken down by company (tCO_2e)

GHG emissions	Scope 1					Scope 2
(t CO_2e)	CO_2	CH_4	N_2O	SF_6	Total (t CO_2e)	CO_2
Cemig Geração e Transmissão S.A.	564,140	5,754	9,287	4,245	583,426	893
Cemig Distribuição S.A.	10,182	12	266	2,285	12,745	856,197
Rosal Energia S.A.[1]	21	0	0	0	21	0
Sá Carvalho S.A.[1]	4	0	0	0	4	0
Efficientia S.A.[2]	3	0	0	0	3	0
Usina Térmica Ipatinga S.A.[1]	0	0	0	0	0	0
Usina Térmica do Barreiro S.A[1].	21,295	9	12	0	21,316	0
Cemig Telecomunicações S.A.	194	0	8	0	202	924
Total	**595,839**	**5,775**	**9,573**	**6,530**	**617,717**	**858,014**

[1] These plants consume the energy generated by themselves.
[2] Uses the facilities of Cemig Distribuição S.A.

From data presented, it can be seen that Cemig GT and Cemig D represent 96.5% of the total Scope 1 emissions, mainly caused by fossil fuel consumption of TPP Igarapé at Cemig GT and by the fleet of vehicles at Cemig D. In relation to the Scope 2 emissions, Cemig D accounts for 99.8% of the total emissions arising from losses in the distribution system.

Table 8 shows a summary of emissions of Scope 1, 2 and 3 by type of gas.

Table 8 - Emission data consolidated for all GHG and Scopes

Emissions in metric tonnes of CO_2 equivalent (tCO_2e)			
GHG (t)	**Scope 1**	**Scope 2**	**Scope 3**
CO_2	595,839	858,014	11,332,564
CH_4	5,775	0	9
N_2O	9,573	0	197
SF_6	6,530	0	0
Total	**617,717**	**858,014**	**11,332,770**

9. Scope 1, quantified separately for each GHG

Table 9 shows the GHG direct emissions broken down by greenhouse gas (t) in tCO_2e.

Table 9 - GHG emissions in tons of GHG gas and in metric tons of CO_2 equivalent (tCO_2e)

GHG Gas	In metric tons of each gas	Global Warming Potential[1]	In metric tonnes of CO_2 equivalent (tCO_2e)
CO_2	595,839	1	595,839
CH_4	231	25	5,775
N_2O	32.12	298	9,573
HFCs	0	12,000 - 14,800	0
PFCs	0	7,390 - 12,200	0
SF_6	0.29	22,800	6,530
Total	-	-	617,717

[1] Source: IPCC (2007)

CO_2 is the gas of greater representation in the calculation of total emissions due to the significant use of fossil fuels by Cemig's Thermal Power Plants, calculated in the Scope 1.

10. Corporate goals

Aware of its commitment to the mitigation of its gases emissions which contribute to global climate change, Cemig has defined a corporate goal of reducing direct emissions intensity (Table 10).

Table 10 - Corporate Goal to Reduce the Intensity of Direct Emissions

Scope	% reduction relative to the base year	Metric	Base year	Emissions normalized for the base year (tCO_2e / MWh)	Target year
1	8%	tCO_2e / MWh	2008	0.007801	2015

Direct emissions intensity of Cemig in 2014 was 0.023467 tCO_2e/MWh, exceeding the value of the target set by the Company. This is due to the fact that Igarapé Thermal Plant has been dispatched throughout the year 2014 to cope with the contingencies of the Brazilian Interconnected Electric System: it took 6,541 hours of operation in 2014 against 1,653 hours in 2013. It should be noted that Cemig has intensely sought to increase the efficiency of this unit. In 2008, the emission of this unit was 890 tCO_2e/GWh, and in 2014 it dropped to 821.2 tCO_2e/GWh. Fulfillment of

the goal proposed will be duly verified at the end of the coverage period of monitoring planned for December 2015.

With the same purpose, Cemig has set a goal for reducing electric energy consumption (Table 11).

Table 11 - Corporate Goal to Reduce Electric Energy Consumption

Scope	% emission of the Scope	% reduction relative to the base year	Metric	Base year	Organizational boundaries	Target year
2	0.8%	4%	GJ	2011	Cemig GT and Cemig D	2020

Between 2011 and 2014 there was a reduction of 5.8% in electricity consumption.

Another goal set is related to management of technical losses of electric power in the Transmission and Distribution (Table 12).

Table 12 - Corporate Goal to Reduce Technical Losses of Electric Energy

Scope	% emission of the Scope	Goal percentage	Metric	Base year	Organizational boundaries	Target year
2	99.2%	To remain below the rate of 10.85% of energy losses	% losses calculated	2013	Cemig GT and Cemig D	2017

The total losses were 11% in 2014.

11. GHG emissions from biomass

The considered “carbon neutral” emitted in the burning of biomass is reported separately, in accordance with the guidelines of the GHG Protocol. For fossil fuels with the addition of biofuels, the values given by the National Petroleum Agency (ANP) were adopted, compiled in the Calculation Tool of the GHG Brazilian Program Protocol. In 2014, the additional average of ethanol (anhydrous) to the gasoline sold in Brazil was 25% and 5.7% of biodiesel in diesel.

Table 13 shows the emissions from the consumption of biomass.

Table 13 - CO_2 emissions by consumption of biomass (tCO_2e)

Scope 1	*1,013.728*
Scope 3	*547.678*
Total	**1,561.405**

12. GHG Reductions and Removals

Cemig performs some actions which indirectly contribute to GHG removal; however, given its peculiar characteristics related to quantification of emissions and due to its low level of assertiveness and integrity, at the moment, the Company has chosen not to quantify them.

Some of the initiatives which contribute to GHG removal are:

- The Riparian Reforestation Program, which is an action of cooperation between the Company, the landowners of the surrounding areas of reservoirs considered as Permanent Preservation Areas (APP) and the Public Prosecutor's Office. Owners are encouraged by Cemig to preserve these areas and promote riparian reforestation. To do so, the Company provides seedlings and bears the implementation costs; in turn, the owners provide areas and undertake to properly maintain them. Cemig has recovered approximately 78 ha of riparian forests around its reservoirs, in partnership with landowners of the Permanent Preservation Areas.
- The Company manages two forest nurseries, located at the environmental stations of Itutinga and Volta Grande, where seedlings have been also produced for the urban tree planting, in addition to a seed laboratory, located in Belo Horizonte. 13,515 seedlings were distributed in 2014 for urban tree planting, donated by the Forest Nursery of Itutinga. 33 requests were recorded, 28 of which were fulfilled in the same year. In addition to producing seedlings for urban tree planting to comply with agreements with Municipal Governments, Cemig's forest nurseries also produce native species seedlings for reforestation of riparian forests around its reservoirs, tributary rivers and springs, in partnership with farmers.

The strategy for GHG emission reduction is based on ten principles ("Commitment to Climate Change"), in which three main initiatives are highlighted: 1. Energy generation from renewable sources; 2. Fleet management; and 3. Expansion of the renewable energy matrix and maintenance of assets. Some of the corporate initiatives which contribute to GHG reduction are:

Scope 1

- Defined as a corporate strategic driver, promoting the use of renewable sources of energy is also focused on fostering greater diversification of the power generator complex, with new sources, such as wind, solar, and other possibilities pointed out by researches and innovation of the Company.
- Recent R&D projects show results which can be used on a large scale by the Company in the medium and long term as: i) generating electricity in solar power plants connected to the electrical system, know-how which has been pioneering developed by Cemig through the Sete Lagoas Solar Power Plant and Mineirão Solar projects, this already opened; and ii) the implementation of a smart grid in an experimental way in Sete Lagoas City.
- Fuel consumption reduced by 1.55%[6], representing an avoided cost of

[6] Value calculated without considering the consumption of thermal power plants.

approximately R$ 2.1 million to the Company.

- Investments in training, equipment, change of methodology, and processes with a focus on mitigation of SF_6 loss, either by elimination of leaks, or by eliminating losses in the maintenance process.
- Additionally, it should be noted that Cemig evaluates the risk of carbon emission increase in its energy matrix, by conducting environmental due diligence, concerning the acquisition and/or merger of new assets, or considering the risk in the calculation of technical and economic viability for new projects by conducting sensitivity analysis. This initiative has helped the Company in decision-making, considering the climate strategy in expanding its businesses.

Scope 2

- Establishment of corporate goals for reduction of electric power consumption in Cemig, as described in item Corporate goals.
- Investment in works to strengthen the electric system of Medium and Low Voltage, a total of R$ 44.7 million, and investment of R$ 226.3 million to expand and strengthen the sub-transmission system (69 kV to 230 kV);
- Design of reactive compensation in Medium Voltage: preparation of a reactive compensation plan for installing 225 automatic capacitor banks by 2016, with a planned investment of R$ 9.0 million and reducing associated technical losses of R$ 4.2 million/year (corresponding to 23.6 GWh/year).
- Acquisition and installation of distribution transformers with amorphous core technology, which reduces no-load losses by about 80%, in addition to strengthening the respective low-voltage circuits.

Scope 3

- Energy Efficiency Projects referred to in Smart Energy Program of Cemig are relevant instruments for indirect emission reduction from third parties in providing reduction in electric power consumption of the end consumers, by replacing obsolete electrical equipment of high consumption level, and promoting environmental education initiatives. In 2014, these projects prevented the emission of 2,159.5 tCO_2e.
- The incentive projects implemented by Efficientia will prevent the emission of 117.26 tCO_2e/year in industrial and commercial customers. Efficientia is an Energy Services Company (ESCO) operating in the development and feasibility of technological solutions for promoting the efficient use of energy and the consequent reduction of greenhouse gas emissions at facilities of clients of medium and large size commercial, industrial, and services sectors.

13. Exclusions

The inventory has intended to account for all major emission sources from Scope 1 and Scope 2. Disposal of solid waste and wastewater generated in the operation were not accounted for in Scope 3 (organic matter), which are treated and disposed of by a third party.

14. Recalculation

There was no need for recalculation of previous years reported in recent inventories because Cemig did not show significant changes in its structure, capacity and emission sources in 2014. 2008 remains as the base year.

15. Uncertainties and quality of the report

Cemig has sought grounds from the best methodologies, references and tools for calculating GHG emissions publicly available to ensure optimal quality of reports and to reduce the maximum possible level of inventory uncertainties. Regarding the data verified, upon opting for the centralized approach, Cemig understands that it has reduced the calculations duplicity risk, estimates and possible errors in formulas and calculations.

Another fundamental item to assure the quality of its inventory is the fact that the information sources used are contemplated by the Management System of the Company, based on ISO 9001, ISO 14001 and OHSAS 18001 standards, which guarantee processes and procedures oriented to quality, reliability and tracking of the information verified. The standards to guarantee conducting the critical analysis, handling and management of information, beyond the regulatory requirements to ensure greater reliability in the results, are described in the Management Systems Manual and in the General Procedures drawn up and approved at the corporate level. Finally, all of data used, its sources and collection methodology and procedures, in order to guarantee the information integrity, were verified by an independent third party.

The uncertainty level on an inventory is owing to errors introduced in the calculations of those emissions, whether quantifying the activity of a source, or the emission factor used. The activity of a source is the data expressing the intensity of such source. For example, the fossil fuel consumption of TPP Igarapé is a data of the activity of that source, and relative inaccuracies to that data increase the uncertainty percentage on the emission calculation of that source. That imprecision normally is owing to the sum of the inaccuracies of equipment which measure the source activity. In the case of fuel consumption, this uncertainty is owing to the uncertainty of the equipment which measures the amount of liters indeed consumed and the burning efficiency of that fuel. Failures in data collection are associated with the inventory quality, much more than the calculation uncertainty.

Similarly, the inaccuracy existing in the emission factor of the fuel burning also increases the final calculation uncertainty. The final uncertainty is predominantly

determined by the activity uncertainty and by the uncertainty of the emission factor.

To estimate Cemig's GHG inventory uncertainty, the “GHG Protocol Short Guidance for Calculating Measurement and Estimation Uncertainty for GHG Emissions" was used, having as the level of uncertainty +/- 4.7%.

It is understood that this uncertainty calculation follows the recommendations of the "Guidance" mentioned; however, it is worth noting that it contains errors and inaccuracies concerning the way it was executed, that is, it considers general factors and not the real existing inaccuracies, which would be laborious and costly for obtaining a more accurate value. The data serves, however, to generally indicate that inventory follows the best practices recommended by the “GHG Protocol”, resulting in adherent information and with the quality expected by the methodology adopted.

16. Responsible for preparing this report

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17. Annex 1 - Verification Statement

STATEMENT

The Bureau Veritas Classification Society and Certification Brazil Ltda., established on Avenida do Café 277, 5th floor, tower B, Vila Guarani, Sao Paulo, SP, entered with the CNPJ (National Register of Legal Entities) under number 33.177.148/0012- 08, states for appropriate action that Cemig - Companhia Energetica de Minas Gerais, established on Avenida Barbacena, 1200 - 17th floor, wing A1, Belo Horizonte, Minas Gerais entered in the CNPJ (National Register of Legal Entities) under number 06.981.176/0001-58 in the city of Belo Horizonte, Minas Gerais, is authorized to publish in all their titles and websites the words of the Statement of Conformity according to the wording below: **"The Bureau Veritas Certification, based on the processes and procedures described in its Verification Report, adopting a reasonable level of confidence, states that the Inventory of Greenhouse Gases - year inventoried 2014 of CEMIG – Companhia Energética de Minas Gerais, is accurate, reliable and free from error or distortion and is a fair representation of the GHG data and information on the reference period for the defined scope, been prepared in conformity with the NBR ISO 14064-1:2007 and Specifications of the GHG Protocol Brazilian Program and verified according to the standard NBR ISO 14064:2007-3:Specification with guidance for validation and verification of greenhouse gas assertions and Specifications of GHG Brazilian Program".**

Verified emissions:

Scopes 1, 2 e 3 (in tCO_2e)

Approach	Scope 1	Scope 2	Scope 3	Total
Operational control	617,717	858,014	11,332,770	12,808,501

São Paulo, April 29th 2015

Bureau Veritas Certification

Modelo declaração de verificação BV (nível razoável) rev. 11/08/2014