Carbon Disclosure Project

2011

Companhia Energética de Minas Gerais

English Version

Content

Introducion

0.1 - Introducion

Founded in 1952 by then Governor of the State of Minas Gerais, Mr. Juscelino Kubitschek de Oliveira, Companhia Energética de Minas Gerais – Cemig is active in generation, transmission and distribution of electric energy, in addition to providing energy solutions (Efficientia S.A.). Cemig conglomerate is constituted of 58 companies and 10 consortia, and is coordinated by its whole subsidiary companies Cemig Geração e Transmissão S.A. (Cemig GT) and Cemig Distribuição S.A. (Cemig D) with assets and businesses in 19 Brazilian states and in the Federal District, in addition to Chile. The Company also has investments in natural gas distribution (Gasmig S.A.) and in data transmission (Cemig Telecom). Cemig is a mixed capital company controlled by the Government of Minas Gerais, which owns 51% of the common stocks. In addition to its controlling shareholder, the Company has other 114,600 shareholders in 44 different countries (data as of December 31st, 2010) and shares listed in the Brazilian BM&FBovespa S.A., in the New York Stock Exchange (NYSE) and in the *Mercado de Valores Latino-Americanos* (Latibex) of Madrid. In the last five years, Cemig's market value has varied from R$ 14.3 billion to R$ 18 billion.

The Company has 8,700 kilometers of transmission lines and 67 generation units with a total installed capacity of 6,896 MW. In the Brazilian domestic market (both captive and free) of electric energy distribution, Cemig is responsible for approximately a 12% share and boasts 475,000 kilometers of distribution lines, servicing nearly 18 million people in 774 municipalities in the State of Minas Gerais. In 2010, the Company increased to 26.06% its equity stake in Light, an energy distributor that supplies the capital of the State of Rio de Janeiro and other municipalities in the same state. Cemig also have equity stakes in transmission companies that comprise TBE – Transmissoras Brasileiras de Energia, and holds 56.60% equity stake in Transmissora Aliança de Energia Elétrica S.A. (Taesa). At the end of 2010, it had 8,859 direct employees.

The conglomerate's consolidated net operational revenue reached R$ 12.8 billion in 2010. Its operation is based on a renewable matrix whose main energy source is hydroelectric, which represents 97.2% of its installed capacity – database from December / 2010. Cemig owns 40 reservoirs, with total 2,148.53 square kilometers in the State of Minas Gerais, a state with one of the largest water resources in Brazil.

Due to its commitment to socio-environmental principles, its economic-financial solidity and technical excellence, the Company is internationally renowned as a benchmark in sustainability in its industry and is positioned as one of the main consolidation vectors in the Brazilian electric

energy sector. Cemig has been listed in the Dow Jones Sustainability Index – DJSI for eleven years, ever since the index was created, and is participating, for the sixth consecutive time, in the Corporate Sustainability Index – ISE of BM&FBovespa and was selected to be part of the Carbon Efficient Index, created in 2010 by BM&FBovespa and BNDES.

VISION

"To be, in 2020, one of the two largest energy groups in Brazil in terms of market value, with a relevant presence in the Americas, and a world leader in sustainability in its sector".

MISSION

"To perform in the energy industry sector with profitability, quality and social responsibility".

0.2 - Reporting Year

Fri 01 Jan 2010 - Fri 31 Dec 2010

0.3 - Country list configuration

Brazil

0.4 - Currency selection

BR$($) - Reais

Management

1. Governance

Group and Individual Responsibility (CDP 2010 Q1.1)

1.1 Where is the highest level of direct responsibility for climate change within your company?

Individual/Sub-set of the board or other committee appointed by the Board.

If an individual or committee is identified:

1.1 a - Please identify the position of the individual or name of the committee with this responsibility.

Governance and Sustainability Committee. Establishes the directives that guide the theme of sustainability in the Company, composed of members of the Board of Directors, with autonomy and decision making power aligned with the Board of Directors. For further details, consult the Cemig Annual and Sustainability Report 2010, page 40.

In addition to the Corporate Governance and Sustainability Committee that holds the highest level of responsibility for the Sustainability theme, including climate change, it is worth mentioning the other areas in Cemig that are directly involved with matters related to climate change.

- **Vice-Presidency**
  Holds the attribution to propose improvements to the Company's social responsibility and sustainability policies and directives and to devise policies and directives for the environment, technological development, energy alternatives and technical norms.
  Coordination/ Hierarchic Level: Presidency

- **Executive Commercial Office**
  Has the attribution to manage the commercialization of the Company's carbon credits in close interaction with the Executive Business Development Office.
  Coordination/ Hierarchic Level: Presidency

- **Executive Business Development Office**
  Has the attribution to promote the search for and analysis of, within the scope of the Company, business opportunities related to the utilization of carbon credits.
  Coordination/ Hierarchic Level: Presidency

- **Corporate Sustainability Superintendence (SE)**
  Has the attribution to propose policies and directives for sustainability, social responsibility, environment and quality improvements and propose the Company's performance strategy related to sustainability, dealing with aspects concerning social and environmental responsibility and quality systems.
  Coordination/ Hierarchic Level: Vice-Presidency
- **Generation and Transmission Planning and Operation Superintendence (PO)**
  Responsible for ensuring that energy planning for operations is in compliance with the legislation and regulations for the electric sector, conduct studies and produce energy balance sheets and the meteorological forecast for the operation and maintenance of the system, the monitoring of and studies and opinions on the climate.
  Coordination/ Hierarchic Level: Executive Generation and Transmission Office

- **Budget Prioritization Committee**
  Advise the Executive Board regarding decisions about and the management of investment projects and other projects undertaken by Cemig in conformity with the directives, goals and results established in the Long-Term Strategic Plan, with the Annual Budget and with Cemig's Investment Policy, or regarding other corporate matters as deemed necessary by the Executive Board and/or Board of Directors.
  Coordination/Hierarchic Level: linked to the Executive Finance and Investor Relations Office (DFN)-Coordinated by the Corporate Planning and Control Superintendence.

- **Strategic Planning Committee (CPE)**
  Promotes interaction between the different areas of Cemig, with the intent of making the Company's Multiannual Strategic Plan viable.
  Coordination/Hierarchic Level: Planning and Strategic Management Office.

1.2 - Do you provide incentives for the management of climate change issues, including the attainment of targets?

No

2. Strategy

Risk Management Approach (CDP 2010 Q2.1)

2.1 - Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities.

Integrated into multi-disciplinary company wide risk management processes

2.1a - Please provide further details

Risk management at Cemig is performed by the Company areas under their respective executive offices, and is centralized by the Corporate Risk Management Committee. In general, climate change is a source of opportunities for the Company to maintain its elevated percentage of generation capacity based on renewable sources, as these are in tune with the Company's vision and they also bring about risks related to adaptation to the climate change.

In the assessment of corporate risks, climate change is not considered as being of a high magnitude, because the company's electric energy matrix is predominantly renewable, with 98.6% of the net generation coming from hydroelectric power plants, 0.3% from wind power and 1.1% from thermal power plants burning residual process gases (renewable). These risks are duly dealt with in the Company through its directives, which are founded on prevention, innovation and adaptation.

The Company's basic strategy for the management of risk is founded on redundancy and precaution, above all linked to adaptation actions, given the importance of renewable sources of energy. Hence, the company identifies and assesses risks while already taking precautionary measures and promoting the protection of assets, ensuring excellence in operational performance. Since 2003, Cemig has adopted an integrated Corporate Risk Management process with the goal of incorporating a more proactive attitude into the management of its risks. This process, which is updated annually, maps all the processes in the corporation, including those that may come to be either directly or indirectly impacted by climate change, such as: dam safety, technological innovation, environmental asset management, sector regulations, meteorology and environmental compliance, among others.

In exploring opportunities, Cemig uses the strategy of anticipation regarding its competitors, above all in relation to technologies with low carbon emissions, and stands out as a pioneer in the use of new technologies, since the main goal consists of working to determine the potential for the development of projects in downsized formats for the evaluation of the challenges related to the operations and the costs involved. This approach aims at ensuring the company's leadership in the Low Carbon and Sustainability Economy and the fulfilment of its bold vision of growth.

Process Scope: Risks are assessed as to their likelihood and their impact on the several businesses in the value chain, aiming at: (I) diminishing the impact and/or likelihood by means of the refinement of controls; (II) the implementation of action plans; (III) the transference of risks through the acquisition of insurance policies; (IV) the assumption of risks, due to the effectiveness of the control environment and to the level of financial exposure allowed or; (V) their mitigation, providing Upper Management with support in decision making for business continuity. Risk measurement is performed utilizing the ORCA Methodology, based on the four dimensions: Objectives, Risks, Controls and Alignment. This methodology, adopted by Cemig, privileges process or operational risks, which does not impede strategic risks from also being identified, which are given differentiated treatment mainly with respect to their categorization and measurement. Once this first identification / updating activity has been completed, the risk undergoes a revision (managerial level) and, following that, is sent for approval (superintendence level).

Risk assessment and Opportunities at Corporate Level

In addition to the process of identifying and measuring the informed risks, the Company has specific committees to deal with related matters, among which we may cite the Energy Risks Management Committee – CGRE, the Corporate Risks Management Committee – CGRC and the Financial Risks Committee. Concerning the identification and mapping of opportunities, the task is assigned to the Executive Business Development Office whose goal is to identify and assess new business opportunities for the company.

Results: 1 – Relevant information with systemic view; 2 – Interactions with other management components, among which we may cite the Budget Prioritization Committee, the Energy Risk Management Committee, the Insurable Risks Committee, the Financial Risk Management Committee, Management and Control Committee; 3 – Incorporation of Sustainability and Climate Change into the Company's Core Business.

Risk Assessment and Opportunities concerning the Company's Assets

The Corporate Risks Management System (SGRC) interacts, in a continuous way with other management tools in the company such as Thematic Committees (Regulatory Matter

Committee, Financial Risk Committee, Information Security Committee and Energy Risk Committee). With this interaction with the Thematic Committees, the SGRC seeks to identify relevant risks that may be the object of mapping, while contributing to discussion by proposing a holistic approach to the events analyzed. Finally, it is worth noting that the multidisciplinary and corporate character of Cemig's risk management process has been efficient in detecting several different modalities of risk and opportunities, including those related to uncertainties due to climate change. An example of this is the mapping of the "Variation in water availability in the reservoirs" risk.

Results: Precautionary / preventive actions for the protection of assets. Information for the management of risk at the corporate level. Action plans for the reduction of risks and asset protection.

Monitoring Frequency

As explicated, risk management is integrated with the Company's management system. The system is fed on a yearly basis, but it may be altered whenever there is any event that requires that this be done. Specialists in each area reassess the risks linked to their areas when requested, thus ensuring the system's maintenance and robustness.

Results: Periodical assessment and the possibility of capturing changes in relation to regulatory, physical and commercial risks. Diagnostics and monitoring of the strategy, as well as its pertinence.

Materiality / Prioritization

The materiality of the risks is subjected to an assessment of probabilities and of impact magnitude in the value chain, thus composing a corporate risk matrix which ranks risks in terms of financial impact, likelihood and intangible impact. Through this ranking process the most relevant risks are then elected and will be the object of discussion in the multidisciplinary committee called the Corporate Risks Management Committee, as previously mentioned.

Results: Effectiveness of actions. Robust treatment of risks and their prioritization. Revaluation of Strategic Planning.

Reporting of Results: It is the responsibility of each executive office in the company to communicate to the Corporate Risks Management Committee for actions to be foreseen and planned at corporate level.

Results: action's forward. Undertaking of actions aimed at the mitigation of risks. Identification of opportunities.

Business Strategy (CDP 2010 Q1.2 - 1.3; Q9.1)

2.2 - Is climate change integrated into your business strategy?

Yes.

2.2a - Please describe the process and outcomes

Cemig's Vision is:

"To be, in 2020, one of the two largest energy groups in Brazil in terms of market value, with relevant presence in the Americas, and a world leader in sustainability in its industry sector".

The strategic management of climate change impacts is inserted into the company's strategy to be a world leader in the electric energy sector with respect to sustainability. Following this business vision, the focus of Cemig's expansion is maintained on renewable energy sources, such as, hydroelectric power plants, wind farms and solar energy. In line with this, Cemig recently invested in the acquisition of three wind farms in the State of Ceará (Brazilian Northeast region), it holds equity stakes in the Santo Antônio HPP, on the Madeira River (in the State of Rondônia located in the Brazilian Amazon Region) and in the Paracambi Small Hydroelectric Plant (SHP) in partnership with Light.

As initiatives for this expansion, Cemig adopts the strategy of technological anticipation, by means of partnerships with universities, public institutions and research centers, supporting all the way from the development of the pilot project through to the development and implementation of the project on a commercial scale, additional to its generation system. As an example, we may cite the Research and Development Project for a solar photovoltaic power plant interconnected to the electric grid, the Mineirão Solar Project and the Wind Atlas (mapping of the wind power potential in the State of Minas Gerais), for further information see question 3.3a.

In order to not allow climate risks to hinder the operational performance of project facilities, as a preventive measure, Cemig invests in the monitoring of the climate indicators, such as temperature, atmospheric pressure, wind direction and speed, atmospheric discharges and precipitation. The Company uses cutting edge techniques and equipment such as: a Storm Location System (SLT), Meteorological Satellites, a Hydrometereological Telemetry and Monitoring System (STH) and the recent acquisition of a Meteorological Radar that shall

provide for monitoring of a total area of 200,000 square kilometers, approximately, which will enable the identification of the intensity, the movement and the type of precipitation, increasing the efficiency of the monitoring. It is important to note that Cemig is a benchmark in Brazil in terms of hydrological planning and meteorological forecasting.

Engagement with Policy Makers (CDP 2010 Q9.10 – 9.11)

2.3 - Do you engage with policy makers to encourage further action on mitigation and/or adaptation?

No

3. Targets and Initiatives

Targets (CDP 2010 Q9.2 – 9.6)

3.1 - Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?

No

If you do not have a target:

3.1e - Please explain (i) why not; and (ii) forecast how your emissions will change over the next five years.

In Brazil, the National Policy and several State Policies for Climate Change are currently in their regulamentation phases. The establishment of corporate objectives for the reduction of greenhouse gas emissions shall be guided by the directives and regulations stemming from the public policies on the theme, which, actually are being deliberated about in several different forums in Brazilian society. The organization continues to participate in these debates by being present in the consultative, deliberative and decision making realms open to participation by civil society, such as the State Environmental Policy Council, the Minas Gerais State Climate Change and Energy Technical Chamber, the Minas Gerais Forum for Climate Change and the Technical Chamber on Climate Change (CTClima) maintained by the Brazilian Corporate Council for Sustainable Development (CEBDS).

Since Cemig's generation system is predominantly composed of renewable sources of energy, the Company holds a comfortable position in debates focused on the theme and as soon as governmental policies are instituted, it will be able to formulate its goals.

The 2010-2019 Decennial Energy Plan (PDE) devised by the Ministry of Mines and Energy that encompasses the expansion of low carbon energy does not establish voluntary goals for the reduction of emissions for the electric energy sector, yet it allows us to state that it is perfectly in line with Cemig's strategy, because the main mitigation directives comprised in the PDE are: i) increased participation of biofuels in the transportation mix; ii) energy efficiency; iii) the maintenance of the participation of renewable sources in the production of electric energy.

No significant change in the organization's emission standards is foreseen for the next five years. Current production projections signal no alterations in the GHG emission intensity for Cemig's electric energy.

Emissions Reduction Initiatives (CDP 2010 Q9.7 – 9.9; Q16)

3.2 - Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?

Yes

3.2a - Please provide details

Cemig has several different services aimed at improving energy efficiency offered to its residential, commercial and industrial clients. In order to provide these services, the Company utilizes funds provisioned for by Brazilian Federal Law Nr. 9991/2000, which instituted the investment of 0.5% of the net operational revenue in energy efficiency programs.

Cemig allocates 60% of the resources destined to energy efficiency to low income residential clients. The remaining 40% are distributed throughout Cemig's whole subsidiary, Efficientia and other nonprofit entities such as hospitals, nursing homes and childcare centers.

The Intelligent Energy Program (IEP) encompasses Cemig's energy efficiency projects: Conviver, Conviver Solar and Conviver Rural – Jaíba. In 2010, Conviver replaced 1.15

million bulbs, 6,000 shower heads and 24,000 refrigerators. The Conviver Solar project provided the installation of 1,680 solar water heating systems and is currently engaged in replacing, free of charge, the electric shower heads for solar water heating systems in 15,000 homes in Minas Gerais by to 2012. In 2010, the Conviver Rural – Jaíba project replaced 120 irrigation systems, which had been in use for more than 15 years, and is going to update 1,044 family agriculture irrigation systems in the North of the State, which represents the largest collective irrigation system in Latin America.

Total investments made towards these programs reached R$ 38.9 million, which have reduced energy consumption by 71,333 MWh/year and, consequently, resulted in a savings on the order of R$ 17 million per year, which is the same as avoiding the emission of 3,633 tCO_2e of Greenhouse Gases – GHG. In addition to replacing equipments, the Intelligent Energy project raises awareness among the public serviced about using electric energy safely and responsibly. For that purpose, educational initiatives are undertaken in all localities serviced.

For both, industrial and commercial clients presenting high levels of consumption, Efficientia undertakes energy diagnostics and identifies opportunities for reductions in consumption, investing in improvements to the client's energy efficiency while having a share of the savings produced by the company's intervention (performance contracts). In 2010, seven contracts were signed for the implementation of energy efficiency projects, which included companies in the industrial sector (lighting and equipment replacement), hospital sector (lighting and bulb replacement) and in the commercial sector (implementation of LED technology). In 2010, the investment totalled R$ 3.5 million and promoted a saving of 5,803 MWh, R$ 1 million and avoided the emission of 1,160 tCO_2e.

Gasmig, a Cemig subsidiary company, brings the natural gas infrastructure to strategic regions of the State of Minas Gerais, enabling the replacement of other more carbon intensive fossil fuels in the manufacturing industry.

3.3 - Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)?

Yes

3.3a - Please provide details in the table below

Activity type	Description of activity	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period
Other	The objective of the *Cidade do Futuro* (Cities of the Future) Project is to test the applicability of the Smart Grid network in the city of Sete Lagoas (in the State of Minas Gerais), through the systemic integration of intelligent solutions for the automation of the distribution network, advanced metering infrastructure and consumer participation. Cemig is the first Brazilian utility to implement a Smart Grid concept.	Undeclared	R$32.5 million	>3 years
Low carbon energy installation	In 2010, two wind farms commenced operations, the Praia do Morgado and Volta do Rio wind farms, with an installed capacity of 28.8 MW and 42 MW, respectively. Both plants are the product of a partnership between Cemig (49%) and Energimp (51%) and are located in the Municipality of Acaraú (in the State of Ceará).	Undeclared	R$ 150.5 million	>3 years
Low carbon energy	Cemig participates as a shareholder (10%) in Santo	Undeclared	Confidential	>3 years

installation	Antônio Energia, the special purpose company responsible for construction and future operations at the Santo Antônio HPP, located on the Madeira River, in Porto Velho (in the State of Rondônia). It will be the third largest plant in Brazil in terms of assured energy, with an installed capacity of 3,150 megawatts and operations scheduled to commence in 2012.			
Low carbon energy installation	Cemig acquired 49% of the voting capital of Lightger, a generating company in the Light Group. The purpose of the company is to exploit the Paracambi SHP, in the State of Rio de Janeiro, with an installed capacity of 25 MW. Operations are expected to be initiated in November, 2011. The SHP will result in the avoidance of emissions of more than 40,000 to CO_2e into the atmosphere a year, and is currently undergoing registration with the CDM.	Undeclared	R$ 19.9 million	>3 years
Other	The goal of the Mineirão Solar Project is to install a photovoltaic solar plant using the roof of the Governador Magalhães Pinto Stadium, also known as Mineirão and the Jornalista Felipe Hanriot Drumond gymnasium, also	N/A	R$ 30 million	>3 years

	known as Mineirinho, as part of the preparations for the 2014 World Cup of soccer. Both venues are situated in Belo Horizonte (in Minas Gerais). Together with an energy efficiency project to be implemented at the stadium, the goal is to be rated as "Gold" in the Leed Rating System, by setting a great example of a Green Building.			
Low carbon energy installation	Cemig has a Research and Development Project for a 3 MW photovoltaic solar plant to be connected to the electric grid that was developed in partnership with a company in the sector. The plant will be located in the municipality of Sete Lagoas (in the State of Minas Gerais). Construction work at the site is to commence in the first half of 2011.	Undeclared	R$ 40 million	>3 years
Transportation: fleet	Continuing with its fleet modernization project, Cemig has replaced 1,851 vehicles, among which 854 are passenger vehicles, 673 are pickup trucks and 324 are trucks. Emissions due to fuel consumption by the fleet were reduced by 21.5% in the 2006/2010 period.	Undeclared	R$13.26 million	>3 years
Other	Cemig is part of a group of companies that is developing	Undeclared	Undeclared	>3 years

	an electric vehicle in Brazil. The project involves the integrated work of several companies to introduce, improve and expand the use of electric vehicles in the brazilian market. These vehicles, integrated into the electric network via a Smart Grid, may contribute as dispatchable generation and load, as a support for contingencies and as an improvement in the quality of energy.			
Other	The company is investing, in partnership with a company from the bioenergy sector, in a Research and Development project aimed at the generation of electric energy using process gases from the wood carbonization process in the production of charcoal. It is worth noting that the charcoal is produced using wood from planted forests that are specifically intended for the production of charcoal to be used by the steel industry in the State.	Undeclared	R$ 8 million	>3 years
Other	Modernization of electric energy distribution networks by means of the installation of a protected and isolant network and modern equipment in order to reduce system losses.	Undeclared	R$ 77.6 million	>3 years

3.3b - What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Federal Laws Nº.9,991/2000. 1% of the organization's net operational revenue must be directed at the financing of research and energy efficiency programs.
Dedicated budget for energy efficiency	Performance Contracts. Energy efficiency initiatives implemented for clients with large consumption are remunerated via rates linked to the effectiveness in reaching energy savings
Other	Carbon Credits. Projects eligible for the CDM are assessed and validated, approved and registered with the CDM.

4. Communications (CDP 2010 Q22)

4.1 - Have you published information about your company's response to climate change and GHG emissions performance for this reporting year in other places than in your CDP response? If so, please attach the publication(s).

Yes

Publication	Page/Section Reference	Identify the attachment
In annual reports (complete)	Climate Change; Emissions	http://cemig.infoinvest.com.br/static/enu/relatorios_anuais.asp?idioma=enu
In voluntary communications (complete)	Investor Relations website	http://cemig.infoinvest.com.br/?idioma=enu
In other regulatory filings (complete)	20F Form	http://cemig.infoinvest.com.br/esp/7729/20F2009_EDGAR30062010_SEC.pdf
In other regulatory filings (complete)	Reference Form	http://cemig.infoinvest.com.br/ptb/7856/FRe_CEMIG_arquivadoCVM_12082010.pdf

Risks & Opportunities

5. Climate Change Risks (CDP 2010 Q3-5)

5.1 - Have you identified any climate change risks (current or future) that have potential to generate a substantive change in your business operations, revenue or expenditure?

( ) Risks driven by changes in regulation

(x) Risks driven by changes in physical climate parameters

( ) Risks driven by changes in other climate-related developments

5.1c - Please describe your risks that are driven by change in physical climate parameters

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
	Changes in precipitation extremes and droughts	An energy matrix highly concentrated in hydroelectric sources is sensitive to changes in rainfall and dry seasons. The main difficulty with the use of this resource stems from the variability upstream from the dams, as this may lead to variations in the production of energy. Cemig has pioneering processes in place for the prevention and mitigation of these risks, which gives the company a competitive advantage in terms of approaching and preparing for climate change risks. (See question 2.2a)	Increased operational cost	6-10 years	Direct	About as likely as not	High

5.1g - Please explain why you do not consider your company to be exposed to risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure.

In Cemig's Corporate Risk Matrix, no regulatory risk associated with the climate change that may lead to substantial changes in the Company's businesses was found, also because its energy matrix is predominantly composed of renewable energy sources with a low intensity of carbon emissions. It is worth noting that the evaluation takes place in relation to the likelihood of occurrence and the impact on the several Cemig´ businesses.

As previously mentioned, 97.2% of Cemig's installed capacity is constituted of renewable sources. Cemig has only one thermal power plant that uses fossil fuels in its operations, and it operates exclusively to provide for the demands of the Brazilian interconnected system. In the years 2009 and 2010, this thermal plant did not operate. The other two thermal power plants – the Ipatinga Thermal Plant and the Barreiro Thermal Plant utilize blast-furnace gases, tar and other waste gases generated in the industrial production of steel, and consume fossil fuels exclusively during start-up, which significantly reduces their emissions of GHGs.

5.1i - Please explain why you do not consider your company to be exposed to risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure.

In Cemig's Corporate Risk Matrix, no other climate-related risk that may lead to substantial changes in the Company's businesses was found. See question 5.1g.

6. Climate Change Opportunities (CDP 2010 Q6-8)

6.1 - Have you identified any climate change opportunities (current or future) that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply.

(x) Opportunities driven by changes in regulation
(x) Opportunities driven by changes in physical climate parameters
(x) Opportunities driven by changes in other climate-related developments

6.1a - Please describe your opportunities that are driven by changes in regulation

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
1	Emission reporting obligations	Cemig's current energy matrix is predominantly renewable. The existence of reporting obligations will make its low emissions energy matrix more visible, which may attract a greater number of investors to the Company, in addition to adding value to its reputation.	Increased stock price (market valuation)	6-10 years	Direct	More likely than not	Low
2	Product efficiency regulations and standards	The establishment of energy efficiency standards implies the need to adopt measures for the reduction of peak loads, allowing for greater regularity of the energy supply curve, thus optimizing the utilization of the system.	Premium price opportunities	Current	Indirect	Very likely	Low-medium
3	Product labelling regulations and standards	In the event that a renewable energy source origin certificate (green energy) is implemented, Cemig will benefit since it boasts a renewable matrix that is already known as a strategic differentiation factor.	Increased stock price (market valuation)	>10 years	Direct	About as likely as not	Low
4	Other regulatory drivers	In a scenario where there will be taxes on carbon emissions, Cemig would be little affected given its history and the continuance of a low level of total emissions.	Reduced capital costs	>10 years	Direct	Very unlikely	Low

6.1b Please describe the opportunities that are driven by changes in physical climate parameters

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
	Changes in precipitation extremes and droughts	Indentifying physical changes caused by changes in precipitation patterns as opportunities and based on the 4th IPCC Report, one can see that in the Southeastern and Southern regions of Brazil, where Cemig has the majority of its reservoirs, the availability of water may range from a position of maintenance to an increase in water production, as it gets closer to regions of higher latitudes in the south. In virtue of this, in accordance with this study, hydroelectric electric energy production may increase with climate alterations.	Increased production capacity	1-5 years	Direct	About as likely as not	High

6.1e - Please describe the opportunities that are driven by changes in other climate-related developments.

D	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
1	Reputation	In a low carbon energy market Cemig has a good reputation among its shareholders due to its renewable matrix and to research and development initiatives aimed at energy alternatives and efficiency programs. The company has been listed by the Dow Jones Sustainability Index for 11 years, since its creation and is part of the BMF&Bovespa and BNDES Carbon Efficient Index, the ICO_2.	Increased stock price (market valuation)	1-5 years	Direct	Very likely	Medium
2	Changing consumer behaviour	The likely variation in average temperatures shall lead to changes in consumption patterns, such as, for example, an increase in the use of cooling and ventilation systems, which shall result in an increased energy demand. The greatest demand for energy shall be directly reflected in debates on the search for new low carbon energy	Increased production capacity	6-10 years	Direct	Very Likely	High

		alternatives and the consequent increase in the commercialization of renewable energy.					
3	Induced changes in human and cultural environmental	Possibility of marketing its low carbon-intensity energy at a differentiated and competitive price in an established low carbon energy market.	Premium price opportunities	6 -10 years	Direct	More likely than not	Medium
4	Other Drivers	Cemig's robust meteorological forecasting service may be an opportunity for new businesses for the Company.	New products/ business services	1-5 years	Direct	About as likely as not	Medium
5	Other Drivers	In the event of corporate investments in energy efficiency are increased there will be an opportunity for new businesses for the company through its subsidiary Efficientia (ESCO).	New products/ business services	1-5 years	Direct	Very likely	Medium
6	Other Drivers	In a low carbon market, once its expertise and its innovative and preventive initiatives have been recognized, Cemig may seek synergies with other partners in the development of new products and services.	New products/ business services	6-10 years	Direct	Very likely	Medium

Emissions

7 Emissions Methodology

Base Year (New for CDP 2011)

7.1 - Please provide your base year and base year emissions (Scopes 1 and 2)

Base year	Scope 1 Base year emissions (metric tonnes CO_2e)	Scope 2 Base year emissions (metric tonnes CO_2e)
From 01/01/2007 to 12/31/2007	185,874	167,274
From 01/01/2008 to 12/31/2008	191,054	282,439
From 01/01/2009 to 12/31/2009	21,921	138,820
From 01/01/2010 to 12/31/2010	38,335	293,460

Methodology (CDP 2010 Q11)

7.2 - Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

Brazil GHG Protocol Programme

7.3 - Please give the source for the global warming potentials you have used.

Gas	Reference
CO_2 (1)	IPCC Fourth Assessment Report (AR4 - 100 year)
CH_4 (21)	
N_2O (310)	
SF_6 (23,900)	

7.4 - Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data

Fuel/Material/Energy	Emission Factor	Unit	Reference
Residual Fuel Oil	2.95	$MtCO_2e/m^3$	IPCC 2006
Natural Gas	1.88	$MtCO_2e/m^3$	IPCC 2006
Gasoline C	2.327	kg CO_2/L	UE EPA
Diesel Oil	2.681	kg CO_2/L	UE EPA
Aviation Fuel	2.198	kg CO_2/L	UE EPA
LP Gas	1.530	kg CO_2/L	UE EPA
Electricity	0.0509	$kgCO_2/kWh$	MCT, Brazil
Jet Kerosene	0.1106 (long trips)	Other $kgCO_2e$/passenger.km	DEFRA

8 Emissions Data

Boundary (CDP 2010 Q10.1)

8.1 - Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory.

Operational Control.

8.2a - Please provide your gross global Scope 1 emissions figure in metric tones CO_2e

38,335

8.3a - Please provide your gross global Scope 2 emissions figure in metric tonnes CO_2e

293,460

8.4 - Are there are any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions which are not included in your disclosure?

No

Data Accuracy (CDP 2010 Q12.12; Q13.8)

8.5 - Please estimate the level of uncertainty of the total gross global Scope 1 and Scope 2 figures that you have supplied and specify the sources of uncertainty in your data gathering, handling, and calculations.

Scope	Uncertainty Range	Main sources of uncertainty	Please expand on the uncertainty in your data
1	More than 2% but less than or equal to 5%	Data Gaps Data Management	Data on activities are directly monitored by Cemig and have been verified within the scope of the Annual and Sustainability Report 2010. Some less significant scope 1 emitting sources are undergoing improvements in monitoring and management which shall be incorporated into the next GHG inventory.
2	More than 2% but less than or equal to 5%	Data Gaps Data Management	Data on activities directly monitored by Cemig were verified within the scope of the Annual Report and Sustainability Report.

External Verification or Assurance (CDP 2010 Q20)

8.6 - Please indicate the verification/assurance status that applies to your Scope 1 emissions.

Not verified or assured.

8.7 - Please indicate the verification/assurance status that applies to your Scope 2 emissions.

Not verified or assured.

Carbon Dioxide Emissions from Biologically Sequestered Carbon (CDP 2010 Q17)

8.8 - Are carbon dioxide emissions from the combustion of biologically sequestered carbon (i.e. carbon dioxide emissions from burning biomass/biofuels) relevant to your company?

No

9 Scope 1 Emissions Breakdown (CDP 2010 Q12.2-12.6)

9.1 - Do you have Scope 1 emissions sources in more than one country or region (if covered by emissions regulation at a regional level)?

No

9.2 - Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply).

By business division
By GHG type
By activity

9.2a - Please break down your total gross global Scope 1 emissions by business division

Business Division	Scope 1 metric tonnes CO_2e
Cemig GT	6,907
Cemig D	13,463
UTE Ipatinga	17,962
UTE Barreiro	3

9.2c - Please break down your total gross global Scope 1 emissions by GHG type.

GHG Type	Scope 1 metric tonnes CO_2e
CO_2	32,445
CH_4	15
N_2O	44
SF_6	5,831

9.2d - Please break down your total gross global Scope 1 emissions by activity.

Activity	Scope 1 metric tonnes CO_2e
Stationary combustion	18,218
Mobile sources	14,227
SF_6 Replacement	5,831

10 Scope 2 Emissions Breakdown (CDP 2010 Q13.2-13.5)

10.1 - Do you have Scope 2 emissions sources in more than one country or region (if covered by emissions regulation at a regional level)?

No

10.2 - Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply).

By business division
By activity.

10.2a - Please break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2 metric tonnes CO_2e
Cemig GT	564
Cemig D	292,896

10.2c - Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 metric tonnes CO_2e
Purchased electric energy	2,373
System losses	291,087

11 Scope 2 Contractual (CDP 2010 Q14)

11.1 - Do you consider that the grid average factors used to report Scope 2 emissions in Question 8.3 reflect the contractual arrangements you have with electricity suppliers?

Yes

11.2 - Has your organization retired any certificates, e.g. Renewable Energy Certificates, associated with zero or low carbon electricity within the reporting year or has this been done on your behalf?

No

12 Energy (CDP 2010 Q12.8; Q12.10; Q13.6)

12.1 - What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

12.2 - Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has consumed during the reporting year.

Energy type	MWh
Fuel	127,432
Electricity	46,966

12.3 - Please complete the table by breaking down the total "Fuel" figure entered above by fuel type.

Fuels	MWh
Residual Fuel Oil	65,899
Gasoline and Diesel Oil	61,519
Natural Gas	14

13 Emissions Performance

Emissions History (CDP 2010 Q19)

13.1 - How do your absolute emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased.

13.1 a - Please complete the table

Reason	Emissions value (percentage)	Direction of change	Comment
Inclusion of new emissions sources	75	Increase	Increase in Scope 1 emissions sources provided by the fuel consumption for starting up of the thermoelectric plants that burn waste gases from industrial processes.
Other: Variation in CO_2 emission factor in the National Integrated System, from 0.0246 tCO_2/MWh to 0.0509 tCO_2/MWh and the increase of 1.87% of the electric system' losses.	111	Increase	Increase in Scope 2 emissions

Emissions Intensity (CDP 2010 Q18)

13.2 - Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO_2e per unit currency total revenue.

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Explanation
0.00003	mtCO_2e	Unit total revenue	64	Increased	The major part of the scope 2 corresponds to the electrical system losses and the changes at the CO_2 emission factor of the National Integrated System, from 0.0246 tCO_2/MWh to 0.0509 tCO_2/MWh. However, the organizational operational revenue increased in 6%.

13.3 - Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO_2e per full time equivalent (FTE) employee.

Intensity figure	Metric numerator	Denominador Métrico	% change from previous year	Direction of change from previous year	Explanation
37.45	mtCO_2e	Full time employee	127	Increased	Changes at the CO_2 emission factor of the National Integrated System and the reduction of 9% at number total of employees

13.4 - Please provide an additional intensity (normalized) metric that is appropriate to your business operations.

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Explanation
1.17	tCO_2e	MWh produced	89	Increased	Increase in fuel consumption for starting up of the thermoelectric plants that burn waste gases from industrial processes.

14 Emissions Trading (CDP 2010 Q21)

14.1 - Do you participate in any emission trading schemes?

No, but we anticipate doing so in the next two years

14.1b - What is your strategy for complying with the schemes in which you participate or anticipate participating?

Cemig understands that its participation in a future emissions reduction scheme is extremely positive, since it will play the role of a supplier of certified emissions reductions to the market. That is to say, through its predominantly renewable energy matrix and the development of a project chart of Clean Development Mechanism projects (see further information on such projects below in question 14.2), Cemig would not suffer operational impacts stemming from restrictions on emissions and would greatly benefit from this context in the event it comes to market its own avoided or reduced emissions.

14.2 - Has your company originated any project-based carbon credits or purchased any within the reporting period?

Yes.

14.2a - Please complete the following table

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO_2e)	Number of credits (metric tonnes CO_2e): Risk adjusted volume	Credits retired	Purpose e.g. compliance
Credit Origination	Hydroelectric energy	Paracambi SHP	CDM	40,000/ year	30,000/year	None	Other: Project Financing
Credit Origination	Hydroelectric energy	Cachoeirão SHP	CDM	26,400/ year	20,000/year	None	Other: Project Financing
Credit Origination	Hydroelectric energy	Pipoca SHP	CDM	24,000/ year	20,000/year	None	Other: Project Financing
Credit Origination	Hydroelectric energy	Baguari HPP	CDM	64,400/ year	50,000/year	None	Other: Project Financing
Credit Origination	Waste Gas Thermoelectric Plant	Siderpita Project	CDM	6,000/ year	4,000/year	None	Other: Project financing

15 Scope 3 Emissions (CDP 2010 Q15)

15.1 - Please provide data on sources of Scope 3 emissions that are relevant to your organization.

Sources of Scope 3 emissions	Metric tonnes CO_2e	Methodology	If you cannot provide a figure for emissions, please describe them
Transportation and distribution of sold products	556	IPCC 2006	NA
Employee commuting	508	IPCC 2006	NA
Business travel	2,429	DEFRA 2008	NA

15.2 - Please indicate the verification assurance status that applies to your Scope 3 emissions.

Not verified or assured.

15.3 - How do your absolute Scope 3 emissions for the reporting year compare to the previous year?

Increased.

15.3a - Please complete the table

Reason	Emissions value (percentage)	Direction of Change	Comment
Air travel increased due to the expansion of the Company's businesses.	49	Increase	Trips that saw the greater increases were mid-range (106%), trips abroad of a short distance (66%) and long distance international trips (31%)
Transportation of employees in cities in the interior of the State of Minas Gerais was included in the inventory.	15.4	Increase	There was no significant alteration in this activity. The increase is justifiable due to the expansion of the scope.

Electric utilities

EU 0.1 – Reporting Years

EU 0.1 - Reference dates

Year ending	Date Range
2006	From 01/01/2006 to 12/31/2006
2007	From 01/01/2007 to 12/31/2007
2008	From 01/01/2008 to 12/31/2008
2009	From 01/01/2009 to 12/31/2009
2010	From 01/01/2010 to 12/31/2010
2012	From 01/01/2012 to 12/31/2012

EU 1 - Global Total By Year

EU 1.1 - In each column, please give a total figure for all the countries for which you will be providing data for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO_2e)	Emissions intensity (metric tonnes CO_2e/MWh)
2006	6,523	34,212	94,450	0.0028
2007	6,567	35,374	163,815	0.0046
2008	6,572	33,412	169,103	0.0051
2009	6,610	35,333	21,921	0.0006
2010	6,687	32,771	38,335	0.0012
2012	7,017	35,497	42,628	0.0012

EU 2 - Energy Fuel Selection

EU 2.1 Please select the energy sources/fuels that you use to generate electricity in this country

Oil & gas (excluding CCGT)

Hydro

Other renewables

Other

Oil & gas (excluding CCGT)

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO_2e)	Emissions intensity (metric tonnes CO_2e/MWh)
2006	131	105.22	94,450	0.89
2007	131	189.53	163,815	0.86
2008	131	205	169,103	0.82
2009	131	1	980	1.67
2010	131	0	312	
2012	131	0	312	

Hydro

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2006	6,338	33,757
2007	6,382	34,740
2008	6,387	32,777
2009	6,410	35,040
2010	6,453	32,319
2012	6,780	35,042

Other renewables

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2006	1	0
2007	1	0
2008	1	0
2009	16	20.13
2010	50	86.08
2012	53	90.38

Other - blast-furnace gases, tar and other waste gases generated in the industrial production of steel

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO_2e)	Emissions intensity (metric tonnes CO_2e/MWh)
2006	53	350.23	0	0
2007	53	443.94	0	0
2008	53	430.19	0	0
2009	53	272.68	0	0
2010	53	365.37	18,278	0.05
2012	53	365.37	18,278	0.05

Total figures for this country

Please enter total figures for this country for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO_2e)	Emissions intensity (metric tonnes CO_2e/MWh)
2006	6,523	34,212	94,450	0.0028
2007	6,567	35,374	163,815	0.0046
2008	6,572	33,412	169,103	0.0051
2009	6,610	35,333	980	
2010	6,687	32,771	18,590	0.0006
2012	7,017	35,497	18,590	0.0005

Data regarding to the Absolute Emissions at Total figures for this country are related to emissions from thermal power plant (operated in 2009 and 2010 just for testing) and its the emissions of starting-up plants that utilize blast-furnace gases, tar and other waste gases generated in the industrial production of steel (started accounting in 2010).

EU 3 - Renewable Electricity Sourcing Regulations

EU 3.1 - In certain countries, e.g. Italy, the UK, the USA, electricity suppliers are required by regulation to incorporate a certain amount of renewable electricity in their energy mix. Is your company subject to such regulatory requirements?

No.

EU 4 - Renewable Electricity Development

EU 4.1 - Please give the contribution of renewable electricity to your company's EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation) in the current reporting year in either monetary terms or as a percentage

Please give:	Monetary figure	%	Comment
Renewable electricity's contribution to EBITDA			More than 98% of Cemig's generation originates from renewable sources. The EBTIDA respective to the Generation business in Cemig, in 2010, was R$ 2,043 billions.

EU 4.2 - Please give the projected contribution of renewable electricity to your company's EBITDA at a given point in the future in either monetary terms or as a percentage.

Please give:	Monetary figure	%	Year ending	Comment
Renewable electricity's contribution to EBITDA			2012	The organization expects to maintain the share of renewables in the organization's generation mix.

EU 4.3- Please give capital expenditure (capex) planned for the development of renewable electricity capacity in monetary terms and as a percentage of total capex planned for power generation in the current capex plan.

Please give:	Monetary figure	%	End year of capex plan	Comment
Capex planned for renewable electricity development	R$ 84,000,000	7.4	2012	The organization expects to maintain the share of renewables in the organization's generation mix.