



Serra do Rola-Moça State Park

# Minas Gerais Commitment to Climate Change



State Government

Minas Gerais, one of the 27 states of Brazil, is located on the southeast region, being the fourth state in territorial extension. In terms of population it is the second due to its more than 20 million inhabitants. Its Gross Domestic Product (GDP), estimated in R\$ 252 billion (in Reais) in 2008, is the third in the country. The State stands out in the Brazilian economy because of its industrial production based on mineral extraction, steel mill, iron alloys, aluminum, pulp and paper and automobile industry. Minas also stands out in livestock farming, having the second largest cattle herd in Brazil. The State's industrial profile reflects the exploitation of its several natural and mineral resources, mainly iron ore, water and forest.

## ENERGY USE

With an industrial sector where energy intensive industries predominate, Minas, differently from other economies, has developed an energy matrix focused on renewable resources which share 54% of an annual total of around 35 millions oil equivalent ton (tOE). Among these resources firewood, charcoal, hydroelectricity, ethanol and sugar cane bagasse stand out.

The great firewood share is owed to the steel mill industry which uses the charcoal in the production of pig iron and steel, a unique experience on the global scenario, which was developed in Minas Gerais on the first half of the twentieth century.

Minas Gerais territory shelters springs of important Brazilian rivers as well as several watersheds. Advantage is taken of its hydropower potential through the construction of power plants that supply 96% of the State's need for electric energy. From a total of 12 thousands megawatts installed, 90% have hydraulic origin.

Since the seventies Minas Gerais has invested in the scientific and technological development of planted forests. Currently, the State counts on approximately 1.8 million hectares of eucalyptus forests that supply companies which produce pig iron, steel, iron alloys, pulp and paper.

## ACTIONS FOR MITIGATION OF CLIMATE CHANGE

Although Minas has an energy matrix considered clean, the State Government, through the State Secretary for

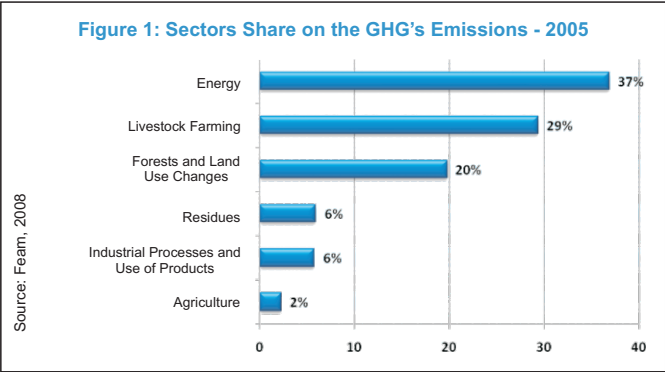
Environment and Sustainable Development (Semad) and State Foundation for the Environment (Feam), has implemented several actions and programs whose objective is to voluntarily contribute to the global effort to reduce the greenhouse gas emissions (GHG's). The definition of the State Policy on Climate Change and its respective Action Plan will be achieved through a careful and judicious analysis of economic, social environmental and political factors which will contribute to the reconcile of economic growth and sustainable development.

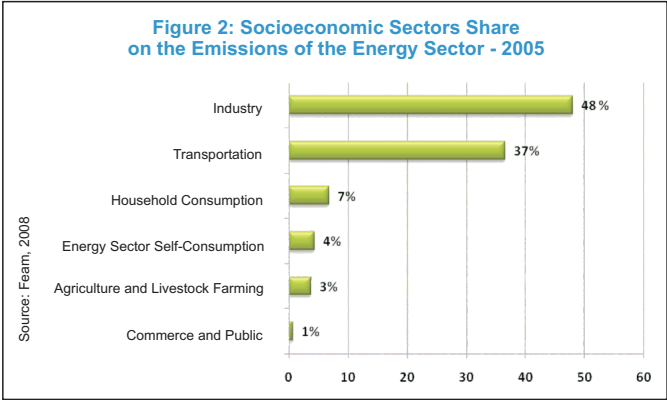
The Inventory on Greenhouse Gas Emissions, an underlying document for the preparation of the State Policy, has not only allowed to identify the State's profile relative to the emissions caused by its socioeconomic activities, but also to define priorities to the actions to be implemented.

As a consequence of the intensive use of energy in its industrial sector, most of the emissions are caused by the energy sector, followed by livestock farming, forests and land use changes, as shown on Figure 1. In the energy sector, industry and transportation are the main emitters (Figure 2). In the industrial sector what stands out is the share of use of energy on steel mill industry which represents 72% of emissions. In the transportation sector, the road modal was responsible for 96% of emissions, with diesel emissions predominating.

Availability of calculation tools, training of staff of companies from different sectors and economic activities, in order to identify and quantify their emissions, as well as adopt management measures to reduce them are priority actions towards the management of GHG's emissions by the productive sector.

The Voluntary Public Register Program of Annual GHG's Emissions made it possible for companies and ventures in





Minas Gerais to use an online platform which allows the quantification of information related to their emissions and the calculation of indicators – carbon intensity, energy intensity, including the concession of incentives to the access and benefits on environmental permits, aiming at the improvement of those indicators.

The Program Residue is Energy has promoted incentive actions concerning the proper disposal of urban solid waste to produce electric power, increasing the power generation from renewable sources and, therefore, reducing emissions. The objective of the Solid Waste Program is not only to eradicate urban dumps but also to utilize the biogas produced in landfills, decreasing methane emissions.

On the Forest Field, programs developed by the State Forest Institute (IEF), such as Environment Fostering and Green Grant, promote preservation and recovery of the native vegetation. The first is directed to permanent preservation areas, to the recovery of degraded areas and afforestation of urban and rural areas, as well as of areas that surround highways. It is done by giving inputs and technical assistance to the planting of an area with its natural and original vegetation. The second program aims at supporting the conservation of the native vegetation cover by granting land owners and squatters who already preserve or commit to recover the vegetation on their land.

**STATE POLICY AND PLAN ON CLIMATE CHANGE**

The State Policy on Climate Change, about to be concluded, aims to develop a low economy and is based on six strategic components: mitigation, adaptation, quantification, verifying and monitoring, technical training and transference of technology, education and awareness of society as well as funding sources.

The State Plan on Climate Change shall be built from Sector Plans and will take into account contributions from all of the sectors involved and will define voluntary goals on the reduction of carbon intensity, as well as the respective actions to this achievement by each sector. The Plan must contemplate definition and dissemination of actions according to the following prior lines: energy efficiency, decarbonization of energy sources with emphasis on the production and consumption of renewable energies, planning and adjustment of the transportation sector seeking a greater use of the urban public transportation; change in the behavior of productive sector as well as consumers; preservation and expansion of carbon sinks, mainly through the control of deforestation; recovery of

degraded areas, reforestation and afforestation; reduction on the emissions of industrial and urban waste; technological modernization of productive processes; development of scientific-technologic research lines and diffusion of technologies, processes and practices related to climate change.

Actions aimed at mitigation will emphasize the reduction of carbon intensity, promoting energy efficiency and economic growth with low emissions. The State seeks to evaluate the possible impacts of climate change over its economy once it is aware that its economy is highly dependent on agriculture, as well as on renewable sources which are vulnerable to effects of climate change. Therefore, the close connection between mitigation and adaptation is made fundamental due to the fact that both are critical to the socioeconomic development of developing countries and regions.

The evaluation of environmental impacts over the State's economy is about to be concluded. It shall guide decision-makers and help them not only to define priorities but also to determine mechanisms to implement and monitor adaptation actions. The economic, social and environmental impacts will be indentified, taking into account micro regions and socioeconomic sectors of the State and based on that information adaptation actions will be prioritized towards the definition of a plan that aims to combat the adverse effects of climate change.

The technological and business knowledge of production and use of renewable energy, base of Minas Gerais' low carbon economy, allied to a policy based on its maintenance and expansion, may contribute to the global effort to reduce greenhouse gas effect emissions, which is necessary and essential in order to keep climate change within the acceptable limits.

**Enquiries**

Laura Maria Jacques Leroy - Manager of Environmental Assessment and Climate Change - State Foundation for the Environment  
Tel.: +5531 39151488 - Email:laura.leroy@meioambiente.mg.gov.br

Diogo Franco - Communications Chief Officer  
State Secretary for Environment and Sustainable Development  
Tel.: +5531 39151858 - Email:diogo.franco@meioambiente.mg.gov.br

\*Translation and layout: Inês Sadala - Photographs: Evandro Rodney

