

RIO 02 - RIO CLEAN DEVELOPMENT 1999-2001

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The state of Rio de Janeiro

- The GIP (Brazil): R\$ 1.0 trillion
- GIP (Rio de Janeiro): R\$139 billions (13.9%);
- Unemployment (Brazil): 6,47% (2001)
- Unemployment (Rio de Janeiro): 4,54% (2001);
- Monthly prescription ICMS (average-2001): R\$778 million (10% of national addition ICMS);

The State of Rio de Janeiro as income source of ICMS

- Communication: 16.5% Electrical energy, Water, Gas: 16.7%
- Petroleum: 16.46%
- Pharmaceutical Products: : 4.83%
- Beverages: 5.86%
- Chemistry: 2.96%
- Mechanical metal: : 2.69%
- Supermarket : 3.34%
- Prod. Nourishing: 3.24%
- Road Transportation: 3.33%

Still on the State of Rio De Janeiro

- Better schooling of the work force (8 years);
- Great Scientific Complex (second in size) with 8,000 researchers in activities and more than 90 entities of science and technology;
- Tip Sectors: technology of the information, biotechnology and petroleum;
- Important center of cultural production: cinema, theater, music, television, etc.

RIO CLEAN DEVELOPMENT

- Launched by the Governor: September of 1999, as first state effort of alignment with the Protocol of Kyoto and the position of Brazil.
- To promote the implantation of economic and social designs in the state about the effect of the emission of effect gases mitigate greenhouse in a perspective of auto-supported social and economic development.
- To make Rio de Janeiro an International Center of reflection on causes and effect of emission of greenhouse gases and its consequences.
- To spread out information on climatic changes through seminars and workshops.

Motivations

- The participation of Brazil and other countries in Rio-92 in relation to the responsibility of the developed countries in the emission of effect greenhouse gases;
- Conference of Kyoto (Japan), 1997, Clean Development Mechanism (CDM), proposal of Brazil;
- The fulfilment of the stated period of 2000 for implantation of the CDM established for the Convention in Buenos Aires, 1998;
- The themes: climatic changes, alternative power plants, clean technologies had always been gifts in the guideline of studies of the scientific community;
- The scientific community of the state of Rio de Janeiro was always distinguished for its technical support to the Brazilian diplomatics delegation.

Organization

- It involves public sectors guests:
- AEB, Brazilian Mission to the Climate Convention, City halls;
- State Secretariats: Planning, Economic Development and Tourism, Environment, Energy and Naval Industry, International Science and Technology, Health and Foreign Relations;

- Not Governmental Agencies: FIRJAN, CEBDS and Public Services Companies and Private Industries.

Coordination

- International Institute of Global Changes (COPPE); Technician-scientific support to the initiatives of the Program and to the Brazilian Mission in the Convention of Climate;
- FAPERJ institutional and financial support for studies and research **FAPERJ** Foundation that finances studies, research and formation of human resources, tied with the Government of the State.
- From 1999 to 2001 FAPERJ has invested R\$196 million, being R\$12 million related to projects for the area of Environment.
- FAPERJ created and supports 5 Programs, among them: thematic areas, technology of information, technology for small and average companies, public policies.
- In 2002, FAPERJ will invest R\$162 million.

Virtual Instituts of FAPERJ

Network of thematic researchers on strategical for the state:

- Climatic changes (COPPE)
- Fluminense Economy (UFF)
- Social State of the Nation and Rio de Janeiro (IUPERJ)
- Tourism (COPPE)
- Bio-informatics (LNCC)

Virtual International Institutes of Global Changes (COPPE / FAPERJ)

- Network of Researchers of the COPPE, UFF, PUC, UERJ on the following subjects:
- Climatic changes
- Changes of Technological Paradigms
- Changes of the Sector of Energy
- Multidisciplinary Center of Reflexion, (currently studying):
 - Alternative sources; recycling of lubricant, CDM,
 - Emission of Greenhouse gases, Electric
 - Generation for battery
 - Combustible, Ethical Stack and Equity,
 - Inspection to propagate, Ambient Risk, Energy
 - Efficiency in transportations.

Resources of FAPERJ within 2 years: R\$ 425 000

Rio Clean Development

Results of the efforts of public, private and scientific sectors (1999 the 2001)

Some Examples:

- Use of alternative sources of electric energy generation, as Thermoelectrial to the Natural Gas. Seropédica and Macaé; more two are in construction: Macaé (2002) and Termorio (Duque de Caxias 2002)
- In development: small hydroelectric power plants (PCH), Paracambi, Bom Jardim, Itaocara and Simplicio.
- Expansion of more of half of the national automotive fleet to natural gas, .
- Recuperation and expansion of railroad services to transport passengers (expansion of the subway, integration boat-bus, improvement of the trains, etc)
- Inspection of Control of the Pollution of vehicles. Rio De Janeiro is the first state to implant the System of Control and has already inspected 2 million vehicles (Detran, Feema).
- Recover forest in 13 cities of Baixada Fluminense (IEF)
- Solar Energy in the north of the state of Rio de Janeiro.
- Use of the Biodiesel, with new or used oil, and animal fat, with sulphur reduction in 98% and 78% of Co2, for the COPPE Phase: test.
- Other benefits: generation of agricultural activity in the production of mamona, industrial processing and distribution. Example of Partnership.
- Studies on the domestic trash recycling and generation of electricity from methane (CH₄)
- Aeolian Generation, experiment in the north of the state

Other Ambiental Projects of the State

- Our Trash, collecting, handling and final disposal of trash in 47 cities.
- Agreements with thermoelectrial plants for support to the State Parks: Desengano (Sta. Maria Madalena) and Pedra Branca(Rio).
- Recuperation of Lagoons (30), removal of hindrance of the water courses, emissary of Ipanema (recuperation), emissary of Barra (construction), despolution of Guanabara Bay with reduction of oil oustings falling of 7 t/dia for 1.3 t/dia, despolution of Rio Paraíba

- Total Investment of the State in Environment is of R\$ 1.0 billion (1999. 2002), being R\$ 650 million for the despoliation of Guanabara Bay.

RIO CLEAN DEVELOPMENT

Developed projects	Description	Local benefits
Bio diesel	Recycling of vegetal oil for use as fuel.	Less pollution & jobs generation
RIOBUS	2.000 buses replaced by 1.000 more efficient.	Less pollution
Recycling of domestic trash	Use of the trash as industrial insume generation of electricity from the CH ₄	Less pollution & jobs generation
Fires in the Humid Tropical Forest & Prevented Deforestation	Identification of the causes, quantification of the prevented emissions and benefits of the conservation	Less pollution & jobs generation
ECOPOLO	Use of the rejected CO ₂ as insume	Less pollution
Small hydropower plants	Potential generation when compared the allowed thermoelectrial emissions	Less pollution
Thermoelectrical plant at North of the state of Rio de Janeiro and wind power plant	Potential of generation, comparison of emissions with thermoelectrical generation	Less pollution