

The Environmental Sector in Brazil

Roberto Kochen, Ph. D.

(Director, Geocompany Technology, Engineering & Environment)
(Professor, Environmental Geotechnics, University of São Paulo)

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1. Introduction

The environmental sector in Brazil can be further divided in two subsectors :

- Water & Wastewater Services (W & W)
- Environmental Services (E)

The W & W sector mainly comprises :

- Civil works, procurement and services contracted by Federal, Provincial and City Governments, plus Privatized Service Companies (like Lyonnaise des Eaux / Vivendi, SANEPAR, etc.). As of today (2000), both government and private companies operate in this sector

The E sector comprises :

- Water, Groundwater, Soil, Solid Waste, Air Quality and related services to adequate pollution sources to Brazilian Environmental Law, to comply with prevailing standards (either from the USA or EU), to reach preset standards of environmental quality and control, or to go forward an environmental certification (e.g., ISO 14000). As of today (2000), both government and private companies operate in this sector .

In 1996 (last year with available data), both sectors were responsible for business estimated to amount to US\$ 1.59 billion . In 2000, it is estimated that the same amount will be invested, with the possibility of an increase of 30 % per year, in the annual amount, during the next 5 years .

Table I gives the total investment of government companies (1996) in the W & W sector . Private investments are not known, as private companies do not publicize them .

Investments in W & W sector	Water Systems	Wastewater Systems	Total
Government	US\$ 734 MI	US\$ 689 MI	US\$ 1.423 BI
Private	US\$ 101 MI	US\$ 66 MI	US\$ 167 MI
Total	US\$ 835 MI	US\$ 755 MI	US\$ 1.59 BI

Table I – Investment in the W & W Sector (1996)

2. Forward Scenarios

The Federal Planning Department estimates that Brazil will need, along the next 15 years, total investments of approximately US\$ 45 billion, just to upgrade it's standards to the minimum acceptable .

Approximately US\$ 15 BI was supposed to be invested from 1996 until 2002 (!) . A succession of financial and currency crisis (Thailand – 97, Russia – 98, Brazil – 99), followed by the lack of budget control by Brazilian Government, postponed this investment . It is excepted that, as Brazil conforms to international financial standards following it's agreement with IMF, positive conditions for long term investment will arise in Brazil from 2001 forward .

3. Industrial Companies Location in Brazil

Brazilian regions where the majority of industrial plants are located are at the South of the country, mainly at the States of :

- São Paulo (e.g., GM, VW, Ford, etc.)
- Rio de Janeiro (e.g., Peugeot)
- Minas Gerais (e.g., FIAT)
- Rio Grande do Sul (e.g., GM)
- Paraná (e.g., Renault)

More recently, some companies chose to install new plant at Bahia Province (e.g., Ford) .

4. São Paulo

São Paulo is the largest Province, being responsible for the output of roughly 40 % of Brazilian GNP . São Paulo City and it's Metropolitan Region neighborhood is home of more than 400,000 industrial companies, employing more than 1 million people in it's activities, generating roughly 30 % of Brazil's GNP .

Of the total amount invested in the W & W sector in 1996, roughly 46 % were made by SABESP – The Water and Wastewater Company of São Paulo Government . In the same sector, main investors are located in the States of Bahia, Paraná, Minas Gerais and Rio de Janeiro .

5. Current Need for Investment in the Environmental Sector

It is estimated that a total investment of US\$ 30 BI will be needed in the Environmental Sector, just to upgrade it to usual standards prevailing in the USA and EU . With this amount, it will be possible to provide water supply and wastewater collection to 95 % of urban homes . Wastewater treatment is not included !

6. Main Projects under Construction

Two large projects are under construction in the Metropolitan Regions of São Paulo and Rio de Janeiro . The first is the control of pollution and environmental rehabilitation of Tietê River, comprising the construction of a wastewater collection and treatment system to stop the sewage flow to the river . Total investments are estimated to reach an amount of US\$ 900 MI, with 45 % of this amount already invested by SABESP . The Inter American Development Bank (IADB) will finance half of the investments .

The second is the environmental rehabilitation of Guanabara Bay, Rio de Janeiro . It comprises the construction of wastewater treatment plants and underwater discharge pipes, with an investment estimated to reach US\$ 793 MI . The IADB is investing US\$ 350 MI, the Japanese Government is investing US\$ 237 MI through the Overseas Economic Cooperation Fund (OECF), and the Provincial Government is investing the remaining 206 MI .

At Minas Gerais, there is the Environmental Rehabilitation Program of Arrudas and Onças Rivers, with total investments of US\$ 307 MI, being US\$ 134 provided by the World Bank and the remaining amount by the Provincial Government .

At Paraná, Curitiba will receive US\$ 247 MI to be provided by the World Bank .

7. Environmental Sector

The Environmental Sector comprises services like :

- Environmental Audits
- Due Diligence Services
- Phase I, II and III Environmental Site Assessments
- Property Assessments
- Underground Storage Assessments
- Regulatory Compliance Management Services
- Remediation Technologies
- Solid Waste Management
- Water & Air Quality Management

Brazilian Environmental Law is one of the strictest in the world, and enforcement is starting to catch up with a more active stance from Regulatory Agencies and Public Attorney's Offices .

Several multinational companies are spontaneously upgrading their environmental standards, to comply with their home country regulations . Main investments regard site assessments, water treatment, air quality and solid waste management .

8. Final Remarks

Brazilian Constitution, Federal Laws and the recently issued Law of Environmental Crimes make possible to sue anyone involved in environmental liabilities, damages and crimes. The current owner of a plant / property is responsible for environmental damages and liabilities, even if the company acquired the property (with the liabilities) from a previous owner . This makes essential to anyone to perform due diligence and assess environmental passives in every case .

We would like to list the following topics as the most promising in terms of market attractiveness for environmental services :

- Restoration of environmentally damaged areas;
- Rehabilitation of groundwater reservoirs;
- Gas stations leakage rehabilitation;
- Environmental assessments and audits;
- Due diligence services;
- Environmental Impact Studies;
- Environmental Management of Hazardous Waste;
- Risk Assessment of Environmental Liabilities;
- Solid Waste Co – Processing;