THE SUSTAINABLE WASTE MANAGEMENT IN THE CITY OF RIO DE JANEIRO

The search for environmental and economic sustainability with social responsibility

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The City of Rio de Janeiro and COMLURB The Municipal Waste Management Company

- Rio: territory and population:
- 1,100 km² and 6 million inhabitants

COMLURB:

- 20.100 employees; Annual budget: US\$ 500 million
- Services under its responsibility:
 - Household collection and street cleansing
 - · Collection on islands of the Jacarepagua lagoon
 - · Free gallaction of bulk goods and household debris
 - Collection and street cleansing in low income communities with special equipment
 - Transfer and final disposal of waste
 - Treatment: composting and RDF production

The City of Rio de Janeiro and COMLURB The Municipal Waste Management Company

Services under its responsibility, not related to regular waste management services:

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- Cleaning and disinfection of 5 main hospitals of the municipal network
- Final disposal of hospital waste from the municipal public network (incineration and autoclave)
- Internal and external cleaning of 1.051 municipal schools
 - Meal preparation for 350 municipal public schools
 - Cleaning of the water surface of lakes and lagoons
 - Cleaning of 58 km of beaches
 - Trimming of 600,000 public trees
 - Maintenance of the 1,200 public squares and patk
 - Cleaning of public buildings (City Hall)
 - Vectors Control (rodents and African snail):
 - Manufacture of sweepers, tools and urban equipment (toys, slides, seesaws, comfort station, etc.)









WATER SURFACE CLEANING AND HOUSEHOLD COLLECTION ON ISLANDS











BEACH CLEANING





STREET MARKET CLEANING









SPECIAL EVENTS (CARNIVAL AND NEW YEAR'S EVE)







EMERGENCIES







TRIMMING AND STUMP REMOVAL









WASTE MANAGEMENT IN LOW-INCOME COMMUNITIES





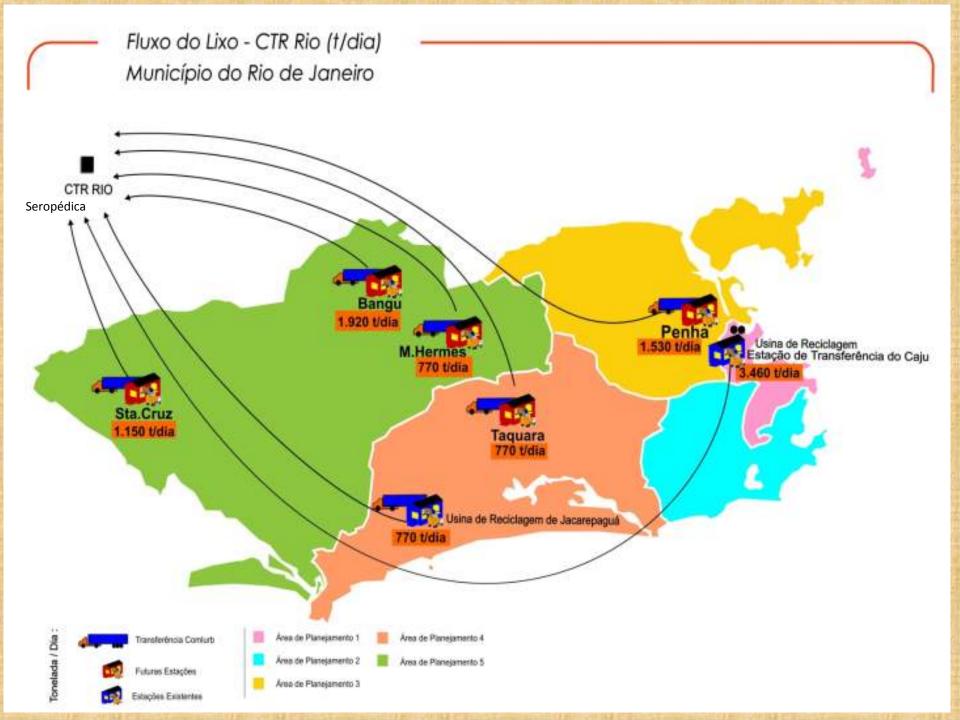






SCHOOLS AND HOSPITALS CLEANING





COMLURB'S SUSTAINABLE AGENDA

- Legal Framework
- Studies
- Being Implemented
- Installed and in Operation

LEGAL FRAMEWORK

NATIONAL SOLID WASTE POLICY

 Sets out principles, goals and tools for integrated management of solid waste.

SUSTAINABILITY REPORT OF THE CITY

MUNICIPAL INTEGRATED WASTE MANAGEMENT PLAN

— Set of actions aimed at finding solutions to waste management, considering the political, economic, environmental, cultural and social aspects of the city, with social control and under the premise of sustainable development.

LEGAL FRAMEWORK

DECREE OF C&D WASTE

 Provides for the mandatory use of recycled aggregates from construction waste - in civil works and engineering services performed by the municipality of Rio de Janeiro.

• ORDINANCE ESTABLISHING THE RIO GROUP OF CLIMATE CHANGE

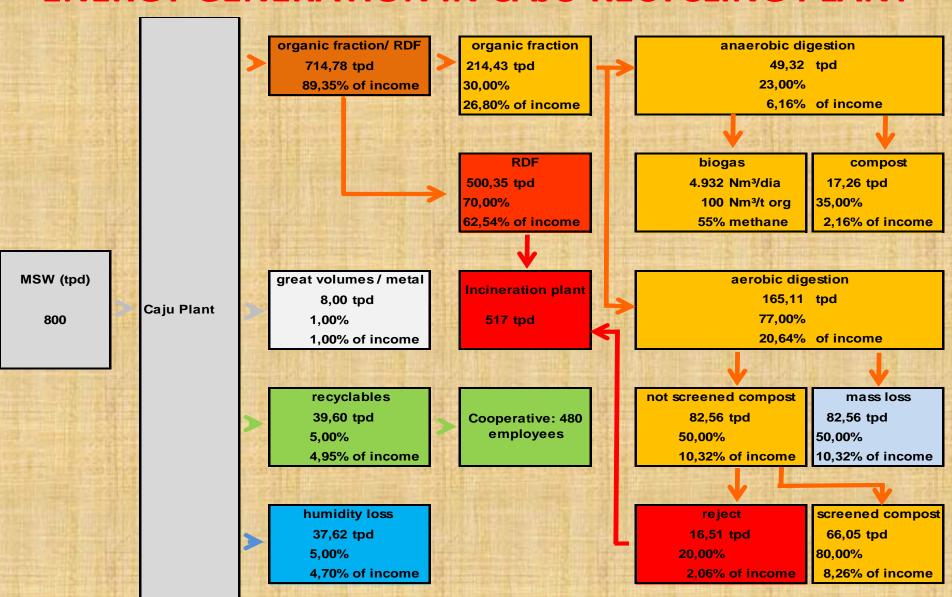
- Establish the Carioca Forum on Climate Change, an advisory body, in order to raise awareness and mobilize society and the government of the municipality of Rio de Janeiro to discuss the problems arising from climate change and promote sustainable development, contributing to economic growth, environmental preservation and social development.

LEGAL FRAMEWORK

- SMAC-COMLURB JOINT RESOLUTION ON THE USE OF COMPOST
 - Establishes the conditions for the use of compost – FERTILURB - from household waste produced in the reforestation services in the city performed by SMAC.
- RESOLUTION OF THE GROUP OF TRIMMING RESIDUES
 - -Creates the Working Group for carry on studies for utilization of waste trimming of the city of Rio de Janeiro.

STUDIES

ENERGY GENERATION IN CAJU RECYCLING PLANT



EMISSIONS REDUCTION AND FLEET OPTIMIZATION MEASURES (In colaboration with Clinton Foundation)

- Alternative Fuels (10% minimum renewable fuels)
 - Biodiesel
 - Sugar Cane Diesel
 - Ethanol
 - Natural Gas
- Non Power Train Measures
 - Euro V compliance
 - Hybrid Hydraulic
 - Eco-driving
 - Green Tires
 - Optimization
 - Routes Optimization (weight on time and fleet control)

STUDIES C&D recycling in ATT's – Sites of Recycling and Transfer

- Missões Up to 400 t/day
- Caju Up to 600 t/day
- Gericinó Up to 400 t/day

STUDIES ENERGECTIC EFFICIENCY IN ALL COMLURB BUILDINGS

- a) Study of consumer units
- b) Draw the consumption profile
- c) Check the adequacy of electricity fares
- d) Make an inventory of installed equipment and their operating regimes (Procel)
- e) Check the consumption habits of users
- f) Adequate actions and targets for energy savings

THE NEW RECYCLING PROGRAM



R\$ 28.000.000,00

Assignment of land for construction of six Recycling Centers

Curb side collection in 120 neighborhoods

Transport of the recyclables to the Recycling Centers

Installation of Ecopoints

Awareness Campaigns





R\$ 22.000.000,00

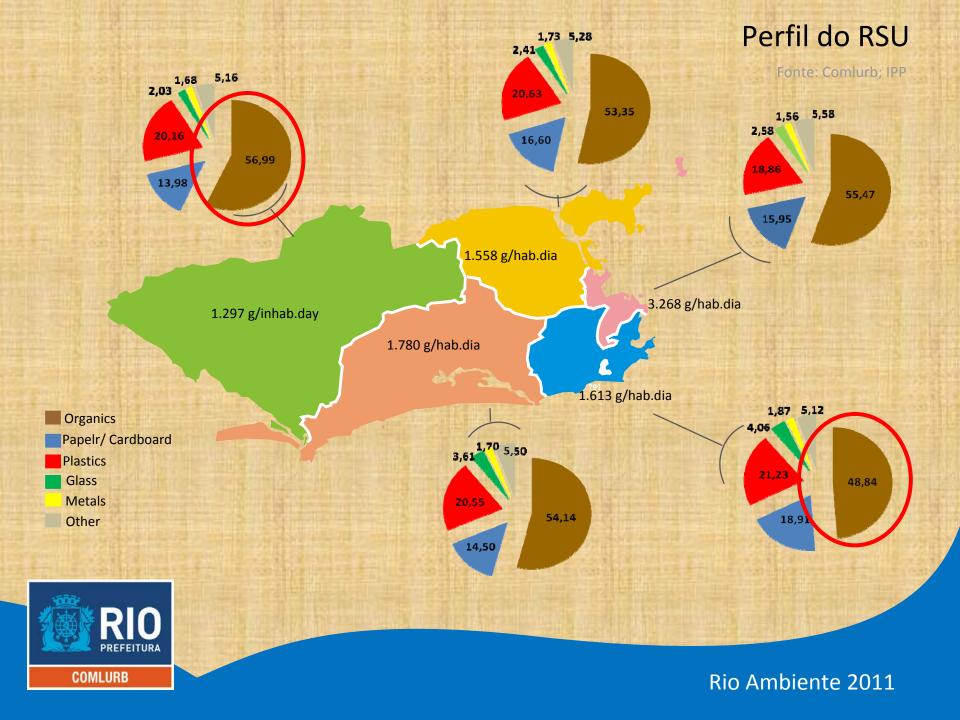
Construction of six Recycling Centers equipped with machinery and equipment

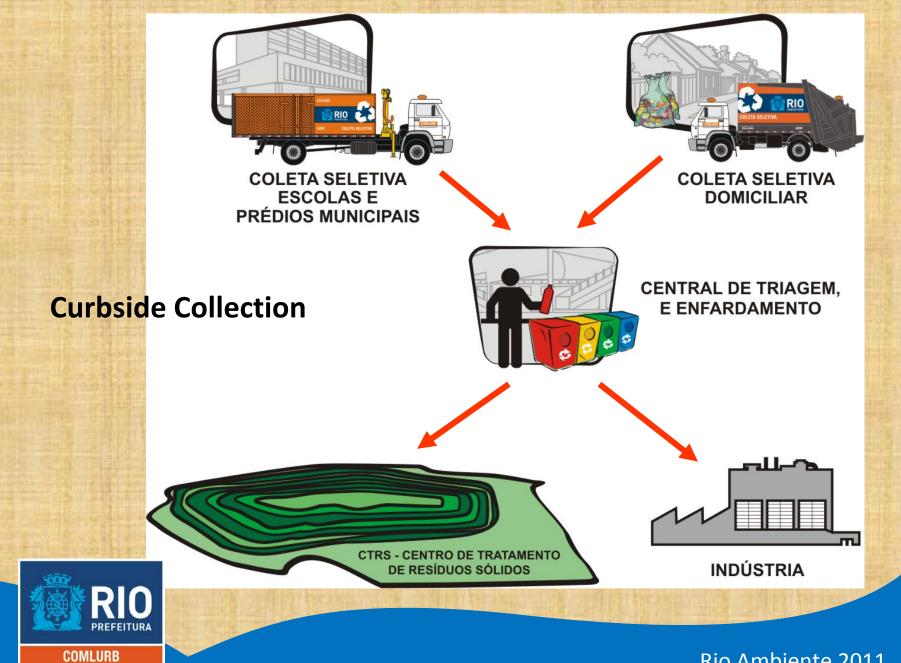
Improvement of the production structure and marketing of the cooperatives

Training, management consulting and training of the network marketing to be operated by the cooperatives

Regularization of cooperatives and environmental permits

Awareness Campaigns

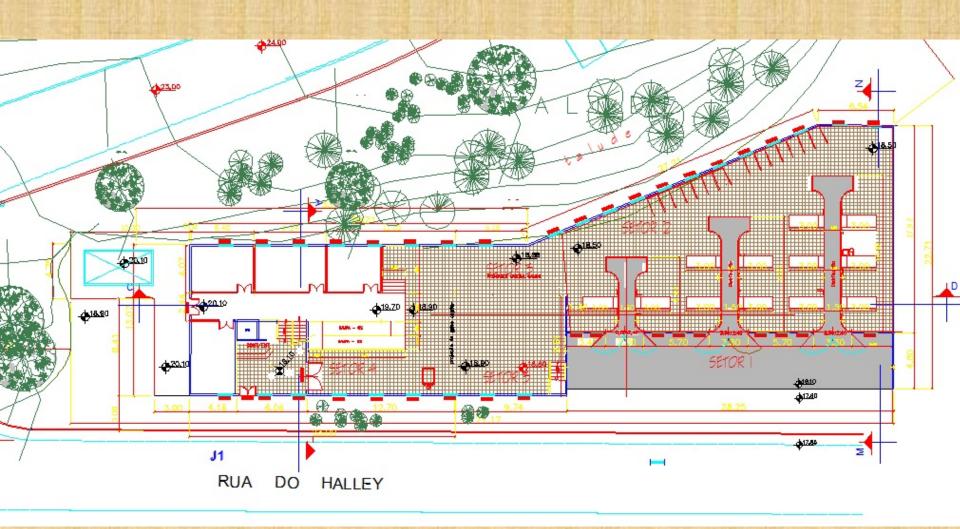




BEING IMPLEMENTED RECYCLING CENTERS



BEING IMPLEMENTED RECYCLING CENTERS



BEING IMPLEMENTED PAPER BINS MADE OUT OF COCONUT FIBER



BEING IMPLEMENTED SWEEPERS MADE OUT OF PET AND COCONUT FIBER





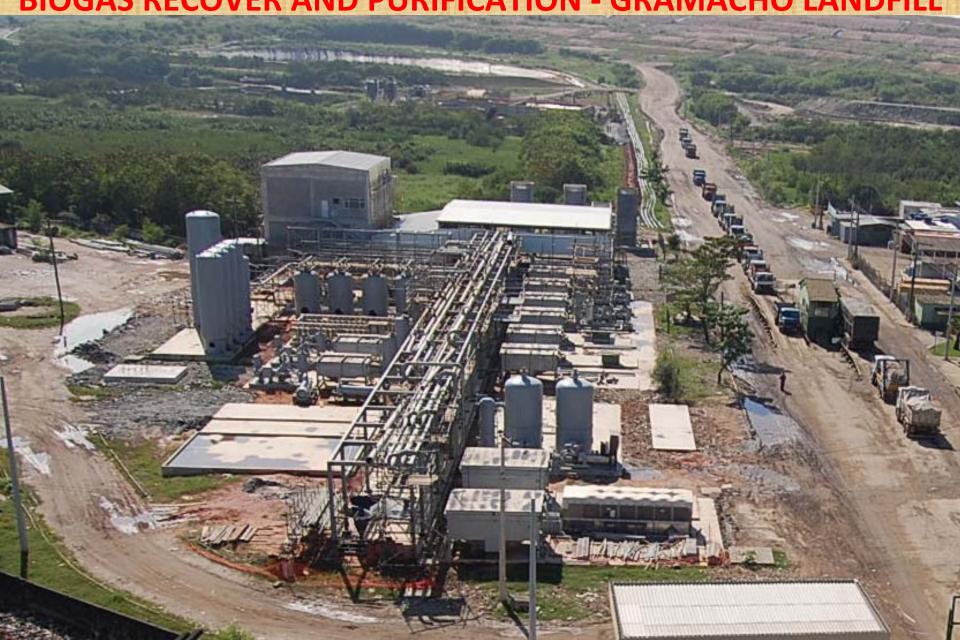
BEING IMPLEMENTED BIOGAS RECOVER AND PURIFICATION - GRAMACHO LANDFILL



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BEING IMPLEMENTED

BIOGAS RECOVER AND PURIFICATION - GRAMACHO LANDFILL





IN OPERATION 100 HECTARS OF RECOVERED MANGROVE

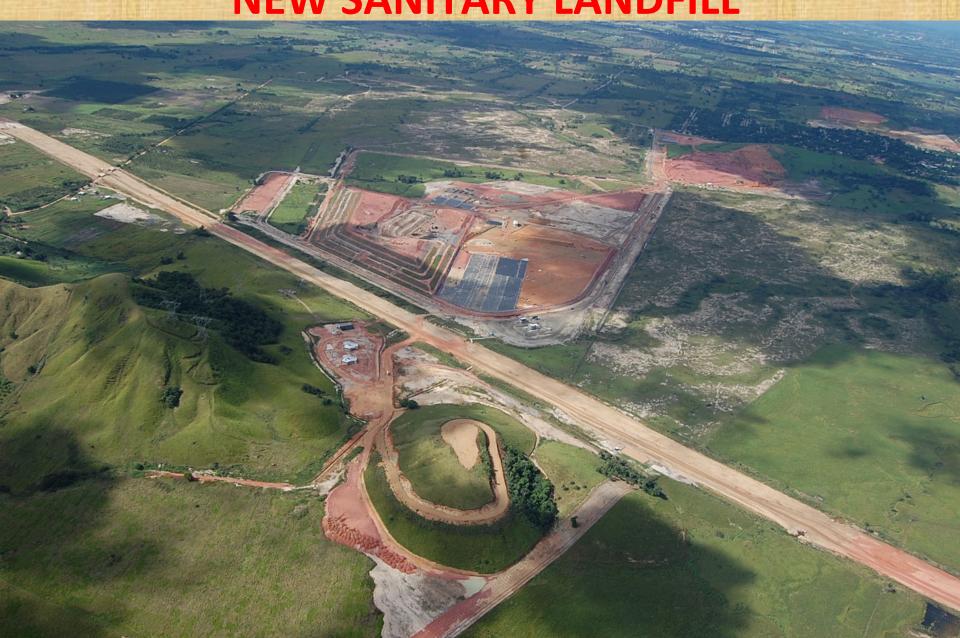




IN OPERATION NEW SANITARY LANDFILL

- Environmental protection
- Recovery of biogas
- Recycling of the C&D
- Utilization of waste from trimming
- Power generation 30MW

IN OPERATION NEW SANITARY LANDFILL



IN OPERATION NEW SANITARY LANDFILL



IN OPERATION COLECTION OF ORGANIC WASTE IN SELECTED GENERATORS FOR COMPOSTING



IN OPERATION USE OF COMPOST IN THE CITY FORESTATION PROGRAM



IN OPERATION USE OF COMPOST IN THE CITY FORESTATION PROGRAM



IN OPERATION RDF PRODUCTION FOR A PILOT WTE PLANT





IN OPERATION RECOVER OF RAIN WATER FOR CLEANING SERVICES





IN OPERATION

UTILIZATION OF TREATED WASTEWATER IN THE STREET CLEANING



IN OPERATION ALTERNATIVES EQUIPMENT FOR COLLECTION IN LOW-INCOME COMMUNITIES



IN OPERATION ALTERNATIVE EQUIPMENT FOR COLLECTION IN LOW-INCOME COMMUNITIES



IN OPERATION ELECTRIC CARS



IN OPERATION 50,000 GREEN MADE CONTAINERS FOR HOUSEHOLD COLLECTION



IN OPERATION URBAN EQUIPMENT MADE OUT OF PLASTIC WOOD



IN OPERATION URBAN EQUIPMENT MADE OUT OF PLASTIC WOOD







For more information on Environment and Solid Waste Management:

http://www.rio.rj.gov.br/web/comlurb/



