

# Methane to Markets Partnership Landfill Subcommittee

## Country Profile for Argentina

Please provide information relative to as many of the bulleted items as possible before 20 May, 2005.

- **Summary of the solid waste management sector**, especially disposal and landfill gas (LFG) recovery or use practices. Existing publications may be submitted in lieu of completing this section.
- Up to now, there is not an appropriate Integrated Waste Management all over the country, existing an inconsistent performance of the different provinces and municipalities. For example, as regards the collection of solid waste, it can be stated that there is 99% of compliance and, in general, there are good quality collection equipments available. In connection with waste separation, it is chiefly done by the informal sector (junkmen). In some cases, there is a high percentage of recovery of materials that may be recycled. Up to now, there are very few plants set up and working on the selection of waste. Regarding the disposal stage, it can be mentioned that most of it is carried out through open dumps or controlled dumps. The appropriate practice by means of sanitary landfills is only developed in the Buenos Aires Metropolitan Area where around 13,000,000 inhabitants live over the total population of the country of 36,000,000 inhabitants. Monthly, 400,000 tons of urban solid waste is generated in this area and in the rest of the Argentina's most important cities, such as Cordoba, Bahia Blanca and the like.
- The only existing waste incineration plants are meant for hazardous waste, as this technique is not used for urban solid waste.
- **Key stakeholders in the solid waste disposal sector and LFG industry** (e.g., public and private landfill owners, government officials, non-governmental organizations, consultants, financiers, project developers, utilities).

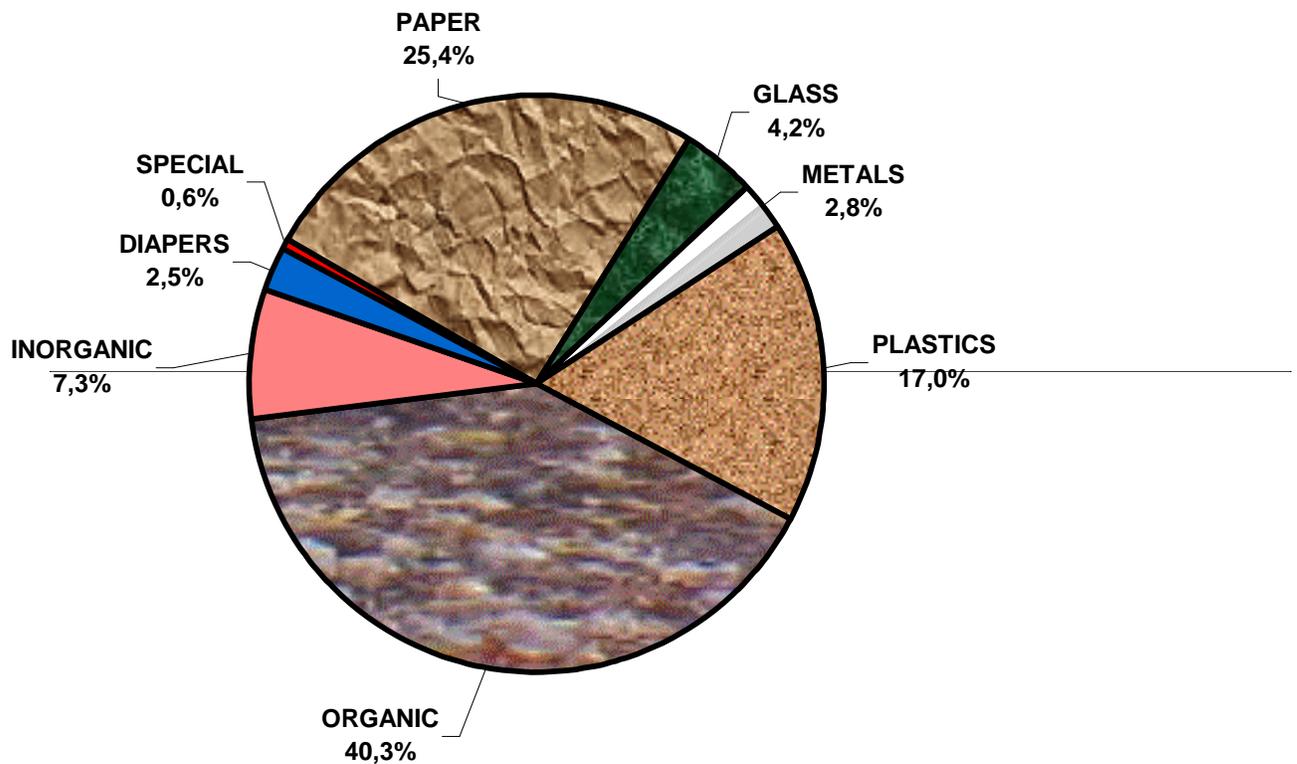
Each of the municipalities that make up the country is directly responsible for urban solid waste management. In this way, almost all sanitary landfills operating in our country belong to each municipality, being operated either directly by municipal staff, or through a contract with a private company.

The Buenos Aires Metropolitan Area is the area with the highest volume of urban solid waste. This area has 36 municipalities, including the Capital City, and an approximate population of 13,000,000 inhabitants over a total population of 36,000,000. At present, this Metropolitan Area generates around 400,000 tons monthly, whose disposal is carried out in the following three sanitary landfills: Norte III, G. Catan and Ensenada. The three sanitary landfills belong a company called CEAMSE (*Coordinación Ecológica Área Metropolitana Sociedad del Estado*, Public Corporation of the Metropolitan Area Ecological Coordination). The owners of this company are the government of the Province of Buenos Aires and the government of the City of Buenos Aires.

- **Overview of LFG potential from existing disposal sites** (number and location of disposal sites, waste-in-place, daily or annual waste acceptance rate, open and close dates for sites, basic characterization of landfilled waste).

As it was mentioned in the previous answer, the biggest sanitary landfills are those in the Buenos Aires Metropolitan Area, to which those in the cities of Cordoba, Rosario, Neuquen, Bahia Blanca, San Martin de los Andes, and others should be added . The information available is the one obtained from consultations made to those responsible for the operation of each of the sanitary landfills, and it is itemized in the attached spreadsheet.

On the other hand, we may state that USW composition characteristics are the following:



- **List of existing or planned landfill gas capture and/or use projects** in megawatt capacity or gas flow (m<sup>3</sup>/minute or day or mmBTU) and a brief description of technology applications employed (e.g., flare, electricity generation, transmitted in pipeline to end user).
- Up to now, the National Government has passed the projects for the capture and combustion, by means of a hidden flame torch for sanitary landfill gas in the Villa Dominico and Olavarria sanitary landfills, both located in the Province of Buenos Aires. On the other hand, the projects regarding the degasification of the sanitary landfills G. Catan, Ensenada, Norte III and Norte IIIa are under development. All these landfills are located in the Buenos Aires Metropolitan Area (see additional information on the attached spreadsheet). In all these cases, the proposed technology is the use of hidden flame torches. Even when their use is not planned, for reasons related to economic competitiveness compared to traditional generation resources, the country has the necessary technology for the generation of electric power based on LFG, or once treated, for the incorporation of this LFG into the natural gas distribution network.
- **Challenges and/or priorities to greater LFG recovery and use**, including:
  - Legal framework (e.g., licensing, royalties, environmental regulations, permits)
  - Current Legal Framework:
    - Law 25,916 (O.G. 7/09/04). Environmental Protection for the Integrated Management of Household Waste
    - Law 25,831 (O.G. 7/01/04). Free Access to Environmental Public Information Régime
    - Law 25,688 (O.G. 3/01/03). Water Environmental Management Régime
    - Law 25,675 (O.G. 28/11/02). General Law on the Environment
    - Law 25,612 (O.G. 29/7/02). Environmental Protection for the Integrated Management of Industrial Waste and Service Activities.
    - Law 24,051 (O.G. 17/01/92) and Regulatory Decree No. 831/93 (O.G. 3/05/93). Hazardous Waste
    - Law 23,922 (O.G. 24/04/91). Approval of the Convention on the control of transboundary movements of hazardous wastes and their disposal subscribed in Basel, Switzerland
    - Law 22,428. (O.G. 20/03/81). Promotion of Soil Preservation
    - Law 20,284. (O.G. 3/5/73). Preservation of Air Resources
    - Resolution of the Secretariat of Sustainable Development and Environmental Policy No. 528/01 (Sanction Date: 4/5/01). Extraction of Gas Samples.
  - Institutional issues
  - Climate change position (e.g., signatory to Kyoto Protocol, CDM/JI opportunities)
  - Technical (e.g., dump sites v. sanitary landfills, high organics in the waste stream)
  - Research and Development Resources

Currently, the National Secretariat of the Environment and Sustainable Development is developing a National Strategy for the correct Integrated Urban Solid Waste Management.

Argentina is a signatory country of the Kyoto Protocol.

- **Market assessment and reform issues**, including:
  - End uses for LFG (e.g., electricity generation, fuel for industrial applications)
  - Prices and Tariffs
  - Competition
  - Market access (e.g., access to electric utility grid, natural gas pipeline)
  - Carbon Credits
  - Renewable or Green Energy Standards

In connection to LFG usage, it is reported that there are technological and legal possibilities which may allow the use of any technology, e.g., electric power generation from LFG use, LFG depuration and subsequent injection into the natural gas distribution network, or its direct marketing for the industries located nearby those sanitary landfills.

It should be mentioned that both the electric market, either at the generation stage, or at the distribution stage, and the natural gas extraction and distribution market are highly competitive markets in which charges are low compared with the ones in other countries of the world.

The current charge is 0.0081 Argentine\$/Kwh.

- **Financing Options** (characterize):
  - Internal mechanisms
  - External support
  - Private sector investment
  - Multilateral agreements
  - Incentives (e.g., subsidies, tax credits)

As regards the financial aspect, genuine investments are required, as the national companies have the technical capacity, but lack the necessary funding to carry out this type of works.

Up to now, the country does not have tax incentives for the development of these technologies, or for the generation of alternative power.

As a signatory member of the Kyoto Protocol. the country may receive this type of funding.

- **Current cooperation among countries** (e.g., existing bilateral agreements or grants)
- **“Wish List”**: What are you looking for from the (e.g., financing, technical assistance, feasibility assessments) and/or what expertise can you provide to the Partnership?

As regards the Methane to Markets Partnership, it is expected to obtain:

Technical assistance for the development of new projects, training and technology transference, and genuine financing.

- **Conclusions and observations**
- **References and sources** (e.g., appendices, supplemental information)