

RESTORATION OF THE CONTROLLED LANDFILL SITE FOR MUNICIPAL WASTE OF LA VALL D'EN JOAN, GARRAF

The Financial Instrument Committee approved a grant of 5 198 016 euros on 18 December 2003 for the Restoration of the Controlled Landfill Site for Municipal Waste of La Vall d'en Joan in Garraf, through the creation of three terraces forming the surface sealing of the controlled landfill.

The project is a part of the overall waste management plan of Barcelona's metropolitan area (PMGRM, see below). The plan focuses on reducing waste amounts and exploiting the waste resources through selective collection at source, recycling, salvage and reuse.

The landfill site is divided into 4 zones. The 1st and 2nd (around 20 ha) belong to the Municipality of Gavà and the 3rd and 4th (around 47 ha) to the Begues Municipality. The funding from the Financial Instrument concerns zone 2.

The **Project Promoter** is the *Entidad Metropolitana de Servicios Hidráulicos y Tratamiento de Residuos* or EMSHTR (Metropolitan Hydraulic Services and Waste Treatment Authority). It is the public organisation with competence for the landfill and has been responsible for its management since 1 January 2001. EMSHTR is a local supra-municipal entity created by the Catalanian Parliament as a local sector administration to supply drinking water, clean and treat municipal waste in the metropolitan area of Barcelona (33 towns, 585 km² and some 3 000 000 inhabitants).



Link to English website of the Project Promoter, also called Metropolitan Environmental Authority (EMMA): <http://www.ema-amb.com/en/index.html>

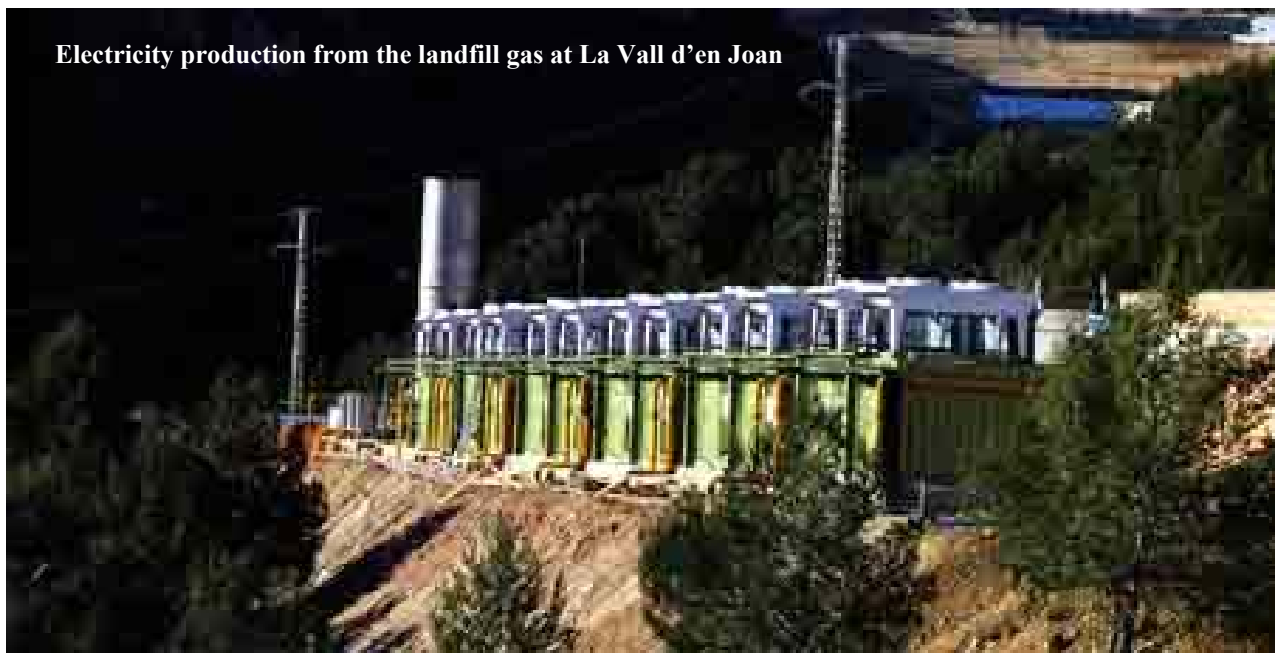
Project Location: the controlled landfill site for municipal/domestic waste La Vall d'en Joan is located 35 km south of Barcelona in the mountain area of Garraf by the seacoast. The site comprises around 67 ha. Most of the Garraf mountain area is protected as a natural park.

Objectives

The project aims to improve the quality of water and re-integrate the landfill site into the natural park and provide it with amenities.

In particular, the sealing and closure of the controlled landfill will improve the following environmental, health and safety aspects:

- **Human health.** The closure of the landfill will prevent, to a substantial level, contamination of subterranean aquifers and therefore confine the risk of diffuse contamination in the surrounding urban and agricultural zones, where water from the subterranean aquifers is used.
- **Public health and safety.** With the restoration of the damaged part of the landfill, it will be possible to avoid the risk of infection by rodents and nuisance by noises, odours and emissions in the atmosphere.
- **Rational use of natural resources.** With increasing surface sealing of the landfill, the biogas produced from waste will be collected and used for power generation, thus contributing to the reduction of fossil fuel consumption.
- **Reduction of greenhouse gases.** The landfill site is the main source of greenhouse gas emissions in Barcelona's metropolitan area. The project will help reduce the level of emissions by capturing the methane that is emitted by the landfill and using it as fuel in electricity production.
- **Nature and biodiversity.** The plant species used for revitalising the controlled landfill area were selected for their high adaptability to the conditions at the landfill. In order to support natural regeneration of the landscape, plant species that are indigenous to the Mediterranean zone and to the Garraf Massif were chosen.



Background

La Vall d'en Joan opened in 1974 to receive domestic waste from 33 municipalities of the Barcelona metropolitan area and has been in use ever since. The site was chosen because of its geological suitability and capacity. Daily waste quantities exceeded 5 000 tons. In total, the landfill had a capacity of 17 million m³. It was the first Spanish landfill to adopt environmental control measures according to European standards. Waste from the various municipalities is first transported to a nearby transfer station, from where special vehicles transport it to the landfill.

The project is part of the EMSHTR's Metropolitan Plan for Urban Waste Management (PMGRM), which is committed to the principles of sustainable development. The plan focuses on the reduction of waste amounts and on exploiting it through selective collection at source, recycling, salvage and reuse and on the appropriate disposal of residues and rehabilitation of affected areas. With the PMGRM, the waste management of the municipal area will achieve compliance with European regulations as well as with the regional law 6/93.

The inhabitants of the metropolitan area generate more than 3 million kg (an average of 1.13 kg per person) of refuse daily. This amounts to 1 250 000 tonnes a year, i.e., approximately half the refuse of the entire Catalonia. In addition, a similar amount of waste is generated each year by the building industry.

The sheer quantity of this refuse and the main forms of disposal developed to date (Garraf dumping site, incineration plants, etc.) calls for the deployment of an integral system of urban waste management that makes it possible to throw away less and recycle more. This saves raw materials and significantly reduces the harmful effects that waste can have on our environment.

To this end, and to fulfil the provisions of law 6/93, the EMSHTR is fostering PMGRM, which establishes reduction, recycling and reuse as priority forms of waste treatment.

This takes the form of a series of initiatives and facilities:

- Street distribution of selective collection bins (glass, paper and cardboard, packaging and cans)
- Construction of dumping sites for special materials (aerosols, paints, etc.) or bulky articles (furniture, home appliances, etc.)
- Construction of sorting plants for collecting and appraising the waste deposited in the yellow bins (packaging, plastics, cans, etc.)
- Construction of composting plants to treat organic matter
- Construction of methanation plants, in order to allow the use of the biogas produced by the decomposition of organic matter
- Organisation of controlled disposal sites to promote and manage the reuse of spoil and other building waste.